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     FILE 'CAPLUS, WPIDS, MEDLINE, FSTA' ENTERED AT 18:47:53 ON 19 FEB 2004
L1          3186 S ((N6 OR N 6) (3A) (FATTY ACID#)) AND ((N3 OR N 3)(3A) (FATTY
L2          1816 S ((OMEGA 6) (3A) (FATTY ACID#)) AND ((OMEGA 3) (3A) (FATTY ACI
L3          4592 S L1 OR L2
L4          5371 S (N6 OR N 6 OR N3 OR N 3 OR OMEGA 6 OR OMEGA 3) (10A) (RATIO O
L5          1551 S L3 AND L4
L6            10 S L5 AND (SEPSIS OR SEPTIC OR SHOCK#)
L7             8 DUP REM L6 (2 DUPLICATES REMOVED)
L8          1541 S L5 NOT L6
L9            13 S L8 AND (MCT OR MEDIUM CHAIN TRIGLYCERIDE#)
L10           11 DUP REM L9 (2 DUPLICATES REMOVED)

=> d que l7; d que l10
L1          3186 SEA ((N6 OR N 6) (3A) (FATTY ACID#)) AND ((N3 OR N 3)(3A)
                 (FATTY ACID#))
L2          1816 SEA ((OMEGA 6) (3A) (FATTY ACID#)) AND ((OMEGA 3) (3A) (FATTY
                 ACID#))
L3          4592 SEA L1 OR L2
L4          5371 SEA (N6 OR N 6 OR N3 OR N 3 OR OMEGA 6 OR OMEGA 3) (10A)
                 (RATIO OR RATIOS OR PROPORTION? OR PERCENT?)
L5          1551 SEA L3 AND L4
L6            10 SEA L5 AND (SEPSIS OR SEPTIC OR SHOCK#)
L7             8 DUP REM L6 (2 DUPLICATES REMOVED)



L1          3186 SEA ((N6 OR N 6) (3A) (FATTY ACID#)) AND ((N3 OR N 3)(3A)
                 (FATTY ACID#))
L2          1816 SEA ((OMEGA 6) (3A) (FATTY ACID#)) AND ((OMEGA 3) (3A) (FATTY
                 ACID#))
L3          4592 SEA L1 OR L2
L4          5371 SEA (N6 OR N 6 OR N3 OR N 3 OR OMEGA 6 OR OMEGA 3) (10A)
                 (RATIO OR RATIOS OR PROPORTION? OR PERCENT?)
L5          1551 SEA L3 AND L4
L6            10 SEA L5 AND (SEPSIS OR SEPTIC OR SHOCK#)
L8          1541 SEA L5 NOT L6
L9            13 SEA L8 AND (MCT OR MEDIUM CHAIN TRIGLYCERIDE#)
L10           11 DUP REM L9 (2 DUPLICATES REMOVED)


=>
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=> d 1-8 bib ab kwic

L7 ANSWER 1 OF 8 MEDLINE on STN
AN 2003216984 MEDLINE
DN 22623073 PubMed ID: 12615625
TI Parenteral nutrition with fish oil modulates cytokine response in patients with **sepsis**.
AU Mayer Konstantin; Gokorsch Stephanie; Fegbeutel Christine; Hattar Katja; Rosseau Simone; Walmrath Dieter; Seeger Werner; Grimminger Friedrich
CS Medizinische Klinik II, Justus-Liebig-University, Giessen, Germany.. Konstantin.Mayer@innere.med.uni-giessen.de
SO AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, (2003 May 15) 167 (10) 1321-8.
Journal code: 9421642. ISSN: 1073-449X.
CY United States
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 200306
ED Entered STN: 20030513
Last Updated on STN: 20030612
Entered Medline: 20030611
AB Infusion of fish oil-based (n-3) lipids may influence leukocyte function and plasma lipids in critical care patients. Twenty-one patients with **sepsis** requiring parenteral nutrition were randomized to receive an n-3 lipid emulsion rich in eicosapentaenoic acid and docosahexaenoic acid or a conventional (**n-6**) lipid emulsion (index **fatty acid**: arachidonic acid) for 5 days. The impact on plasma-free fatty acids, mononuclear leukocyte cytokine generation, and membrane fatty acid composition was examined. Cytokine synthesis by isolated mononuclear leukocyte was elicited by endotoxin. Before the onset of lipid infusion therapy, plasma-free fatty acid concentrations were greatly increased in **septic** patients, with arachidonic acid by far surpassing eicosapentaenoic acid and docosahexaenoic acid, a feature maintained during conventional lipid infusion. Within 2 days of fish oil infusion, free **n-3 fatty acids** increased, and the **n-3/n-6 ratio** was reversed, with rapid incorporation of **n-3 fatty acids** into mononuclear leukocyte membranes. Generation of proinflammatory cytokines by mononuclear leukocytes was markedly amplified during n-6 and was suppressed during n-3 lipid application. After termination of lipid administration, free **n-3 fatty acid** concentrations and mononuclear leukocyte cytokine synthesis returned to preinfusion values. Use of lipid infusions might allow us to combine intravenous alimentation with differential impact on inflammatory events and immunologic functions in patients with **sepsis**.
TI Parenteral nutrition with fish oil modulates cytokine response in patients with **sepsis**.
AB . . . Infusion of fish oil-based (n-3) lipids may influence leukocyte function and plasma lipids in critical care patients. Twenty-one patients with **sepsis** requiring parenteral nutrition were randomized to receive an n-3 lipid emulsion rich in eicosapentaenoic acid and docosahexaenoic acid or a conventional (**n-6**) lipid emulsion (index **fatty acid**: arachidonic acid) for 5 days. The impact on plasma-free fatty acids, mononuclear leukocyte cytokine generation, and membrane fatty acid composition. . . leukocyte was elicited by endotoxin. Before the onset of lipid infusion therapy, plasma-free fatty acid concentrations were greatly increased in **septic** patients, with arachidonic acid by far surpassing

eicosapentaenoic acid and docosahexaenoic acid, a feature maintained during conventional lipid infusion. Within 2 days of fish oil infusion, free **n-3 fatty acids** increased, and the **n-3/n-6 ratio** was reversed, with rapid incorporation of **n-3 fatty acids** into mononuclear leukocyte membranes. Generation of proinflammatory cytokines by mononuclear leukocytes was markedly amplified during n-6 and was suppressed during n-3 lipid application. After termination of lipid administration, free **n-3 fatty acid** concentrations and mononuclear leukocyte cytokine synthesis returned to preinfusion values. Use of lipid infusions might allow us to combine intravenous alimentation with differential impact on inflammatory events and immunologic functions in patients with **sepsis**.

CT . . .

dosage

*Fish Oils: AD, administration & dosage
Follow-Up Studies
Leukocytes, Mononuclear: ME, metabolism
*Parenteral Nutrition: MT, methods
Sensitivity and Specificity
Sepsis: DI, diagnosis
***Sepsis: TH, therapy**
Shock, Septic: DI, diagnosis
***Shock, Septic: TH, therapy**
Treatment Outcome

L7 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
AN 2001:208096 CAPLUS
DN 134:236858
TI High lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**
IN Turini, Marco; Roessle, Claudia; Breuille, Denis; Crozier-Willi, Gayle; Finot, Paul-Andre; Richelle, Myriam; Dutot, Guy
PA Societe des Produits Nestle S.A., Switz.
SO PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001019356	A2	20010322	WO 2000-EP8731	20000907
	WO 2001019356	A3	20010517		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1090636	A1	20010411	EP 1999-118173	19990913
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	BR 2000013958	A	20020514	BR 2000-13958	20000907
	EP 1216041	A2	20020626	EP 2000-956522	20000907
	EP 1216041	B1	20040204		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
PRAI	EP 1999-118173	A	19990913		

WO 2000-EP8731 W 20000907

AB A compn. for use as a medicament, functional food, or nutritional product is described which comprises at least one lipid which provides > 35% total energy of the compn. A preferred embodiment comprises an **n-6/n-3 fatty acid ratio** of about 2:1 to 7:1. In addn., a method of prepg. the compn., use of the compn. in the manuf. of a medicament or nutritional product, and a method of treatment or prevention of **sepsis** or inflammatory **shock** comprising administering an effective amt. of the compn. are described. An example showing that a high lipid diet (15% and 35% lipids) limits body wt. loss in a rat model of **sepsis** was presented. A high-lipid diet had a beneficial effect for limitation of N loss induced by **sepsis**, suggesting a potential decrease of muscle proteolysis (which is dramatically increased in acute inflammatory conditions). It was particularly effective if the diet has been enriched with lipids before infection.

TI High lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**

AB A compn. for use as a medicament, functional food, or nutritional product is described which comprises at least one lipid which provides > 35% total energy of the compn. A preferred embodiment comprises an **n-6/n-3 fatty acid ratio** of about 2:1 to 7:1. In addn., a method of prepg. the compn., use of the compn. in the manuf. of a medicament or nutritional product, and a method of treatment or prevention of **sepsis** or inflammatory **shock** comprising administering an effective amt. of the compn. are described. An example showing that a high lipid diet (15% and 35% lipids) limits body wt. loss in a rat model of **sepsis** was presented. A high-lipid diet had a beneficial effect for limitation of N loss induced by **sepsis**, suggesting a potential decrease of muscle proteolysis (which is dramatically increased in acute inflammatory conditions). It was particularly effective if the diet has been enriched with lipids before infection.

ST lipid omega fatty acid food nutrient; **sepsis** inflammatory **shock** lipid diet

IT Anti-inflammatory agents
Drug delivery systems
Food
Nutrients
Sepsis
(compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Canola oil
Fatty acids, biological studies
Olive oil
Safflower oil
Soybean oil
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Fats and Glyceridic oils, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(fish; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Lipids, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Diet

(high-lipid; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT **Shock** (circulatory collapse)
(inflammatory; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Glycerides, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(medium-chain; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Fats and Glyceridic oils, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(milk; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Fatty acids, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(monounsatd.; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT **Fatty acids**, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyunsatd., **n-3**; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Fatty acids, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyunsatd., omega-6; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Fatty acids, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyunsatd.; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Fatty acids, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(satd.; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT 57-10-3, Hexadecanoic acid, biological studies 57-11-4, Octadecanoic acid, biological studies 60-33-3, Linoleic acid, biological studies 112-80-1, 9-Octadecenoic acid (9Z)-, biological studies 463-40-1, .alpha.-Linolenic acid 506-26-3, .gamma.-Linolenic acid 506-32-1, Arachidonic acid 544-63-8, Tetradecanoic acid, biological studies 6217-54-5, DHA 10417-94-4, Eicosapentaenoic acid 32839-34-2, Docosapentaenoic acid 92661-11-5, Dihomo-.gamma.-linoleinic acid
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

L7 ANSWER 3 OF 8 MEDLINE on STN
AN 2001608625 MEDLINE
DN 21541830 PubMed ID: 11685569
TI Immunonutrition--supplementary amino acids and fatty acids ameliorate immune deficiency in critically ill patients.
AU Grimm H; Kraus A
CS Department of General and Thoracic Surgery, Justus Liebig University, Rudolf-Buchheim-Strasse 7, 35385 Giessen, Germany..
helmut.grimm@chiru.med.uni-giessen.de

SO LANGENBECKS ARCHIVES OF SURGERY, (2001 Aug) 386 (5) 369-76. Ref: 70
Journal code: 9808285. ISSN: 1435-2443.
CY Germany: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 200112
ED Entered STN: 20011102
Last Updated on STN: 20020123
Entered Medline: 20011205
AB BACKGROUND: Immunonutrition with **omega-3 fatty acids** and the "conditionally essential" amino acids arginine, glutamine, cysteine, and taurine can enhance the immune response in critically ill patients. This is due to the immunomodulating properties of these nutrients. Immunonutrition is especially important when a patient's immune response is compromised, as is the case post-operatively or after trauma. Immune deficiency is severely aggravated in **sepsis** and the systemic inflammatory response syndrome (SIRS). The resulting metabolic stress is characterized by glycolysis, lipolysis, and proteolysis, which may escalate to an hypercatabolic response or "autocannabilism." Catabolic metabolism results in insufficiency of both specific and unspecific immunocompetent cells. CONCLUSIONS: Immunonutrition should be started early in such patients for an optimal beneficial effect, preferably via the enteral route. It should include medium chain and long chain triglycerides, polyunsaturated **omega-3** and **omega-6 fatty acids** (in the **ratio** 1:2), olive oil, and conventional amino acid preparations supplemented with the conditionally essential amino acids arginine, glutamine, cysteine, and taurine.
AB BACKGROUND: Immunonutrition with **omega-3 fatty acids** and the "conditionally essential" amino acids arginine, glutamine, cysteine, and taurine can enhance the immune response in critically ill patients.. . . a patient's immune response is compromised, as is the case post-operatively or after trauma. Immune deficiency is severely aggravated in **sepsis** and the systemic inflammatory response syndrome (SIRS). The resulting metabolic stress is characterized by glycolysis, lipolysis, and proteolysis, which may. . . for an optimal beneficial effect, preferably via the enteral route. It should include medium chain and long chain triglycerides, polyunsaturated **omega-3** and **omega-6 fatty acids** (in the **ratio** 1:2), olive oil, and conventional amino acid preparations supplemented with the conditionally essential amino acids arginine, glutamine, cysteine, and taurine.
CT . . .
TU, therapeutic use
*Amino Acids, Essential: TU, therapeutic use
*Critical Illness
*Dietary Supplements
Endotoxins: BL, blood
Enteral Nutrition: MT, methods
***Fatty Acids, Omega-3: TU, therapeutic use**
*Immunocompromised Host: PH, physiology
*Immunologic Deficiency Syndromes: DH, diet therapy
Immunologic Deficiency Syndromes: ET, etiology
. . .
CN 0 (Adjuvants, Immunologic); 0 (Amino Acids, Essential); 0 (Endotoxins); 0 (**Fatty Acids, Omega-3**); 0 (Lipids); 0 (Proteins)

L7 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:736745 CAPLUS
DN 126:88701
TI The effect of different levels and sources of dietary phosphatidylcholine on the growth, survival, stress resistance, and fatty acid composition of postlarval Penaeus vannamei
AU Coutteau, P.; Camara, M. R.; Sorgeloos, P.
CS Laboratory of Aquaculture and Artemia Reference Center, University of Gent, Rozier 44, B-9000, Ghent, Belg.
SO Aquaculture (1996), 147(3,4), 261-273
CODEN: AQCLAL; ISSN: 0044-8486
PB Elsevier
DT Journal
LA English
AB The effect of dietary purified phosphatidylcholine (PC) was evaluated on growth, survival, resistance to osmotic **shock**, and fatty acid compn. of early postlarval Penaeus vannamei (0.3 mg initial dry wt.) fed semi-purified diets. PC sources used were purified soybean PC (SPC, 95% purity), chicken-egg PC (EPC, 94% purity), and de-oiled soybean lecithin (DSL, 23% PC). The growth response of shrimp fed 1.5% of SPC or 6.5% of DSL was significantly greater than that of shrimp fed a PC-deficient diet, whereas no effect was obsd. either on survival or stress resistance. Further increasing the dietary level of soybean PC from 1.5% to 3.0% resulted in a significant decrease of the shrimp wt. gain. Shrimp receiving 1.5% of PC, provided either as chicken-egg PC, soybean PC, or de-oiled soybean lecithin did not show differences in growth, but had a significantly greater wt. gain than that of shrimp fed 1.5% of de-oiled soybean lecithin, which indicated that the phospholipids in lecithin other than PC cannot compensate for a PC deficiency in the diet. With increasing dietary level of soybean PC, significantly higher levels of 20:1n-9, total **n-6** polyunsatd. **fatty acid** (PUFA), and 20:5n-3 were present in the total lipids of shrimp, whereas the proportionate levels of 18:1n-9 and total monenes significantly decreased. Increasing the level of dietary PC, in particular above 1.5% SPC, resulted in an increase of the **proportion** of **n-3** PUFA and **n-6** PUFA in the tissue, and a reduced **proportion** of satd. and monoenoic fatty acids in the PC of the shrimp. Greater incorporation of **n-3** highly unsatd. **fatty acid** (HUFA) with increasing level of PL in the diet may be explained by an improved utilization efficiency of the Et ester-based source, whereas a better incorporation of 18:2n-6 in total lipids and PC of the shrimp may be due to a better availability of this fatty acid provided in the form of a PL rather than triglyceride-based oil.
RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT
AB The effect of dietary purified phosphatidylcholine (PC) was evaluated on growth, survival, resistance to osmotic **shock**, and fatty acid compn. of early postlarval Penaeus vannamei (0.3 mg initial dry wt.) fed semi-purified diets. PC sources used were purified soybean PC (SPC, 95% purity), chicken-egg PC (EPC, 94% purity), and de-oiled soybean lecithin (DSL, 23% PC). The growth response of shrimp fed 1.5% of SPC or 6.5% of DSL was significantly greater than that of shrimp fed a PC-deficient diet, whereas no effect was obsd. either on survival or stress resistance. Further increasing the dietary level of soybean PC from 1.5% to 3.0% resulted in a significant decrease of the shrimp wt. gain. Shrimp receiving 1.5% of PC, provided either as chicken-egg PC, soybean PC, or de-oiled soybean lecithin did not show differences in growth, but had a significantly greater wt. gain than that of shrimp fed 1.5% of de-oiled soybean lecithin, which indicated that the phospholipids in lecithin other than PC cannot compensate for a PC deficiency in the diet. With increasing dietary level of soybean PC, significantly higher levels of 20:1n-9, total **n-6** polyunsatd. **fatty**

acid (PUFA), and 20:5n-3 were present in the total lipids of shrimp, whereas the proportionate levels of 18:1n-9 and total monenes significantly decreased. Increasing the level of dietary PC, in particular above 1.5% SPC, resulted in an increase of the **proportion** of **n-3** PUFA and **n-6** PUFA in the tissue, and a reduced **proportion** of satd. and monoenoic fatty acids in the PC of the shrimp. Greater incorporation of **n-3** highly unsatd. **fatty acid** (HUFA) with increasing level of PL in the diet may be explained by an improved utilization efficiency of the Et ester-based source, whereas a better incorporation of 18:2n-6 in total lipids and PC of the shrimp may be due to a better availability of this fatty acid provided in the form of a PL rather than triglyceride-based oil.

IT **Fatty acids**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(polyunsatd., **n-3**; different levels and sources of dietary phosphatidylcholine effect on the performance of Penaeus vannamei)

L7 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1994:604060 CAPLUS
DN 121:204060
TI A high .alpha.-linolenate diet suppresses antigen-induced immunoglobulin E response and anaphylactic **shock** in mice
AU Watanabe, Shiro; Sakai, Naomi; Yasui, Yoshihiro; Kimura, Yukiko; Kobayashi, Tetsuyuki; Mizutani, Takaharu; Okuyama, Harumi
CS Fac. Pharmaceutical Sci., Nagoya City Univ., Nagoya, 467, Japan
SO Journal of Nutrition (1994), 124(9), 1566-73
CODEN: JONUAI; ISSN: 0022-3166
DT Journal
LA English
AB Mice were fed for 2 mo diets having **ratios** of .alpha.-linolenate [18:3(**n-3**)] to linoleate [18:2(n-6)] of <0.01, 0.36, 1.0 and 3.9. Proportions of safflower seed oil and perilla seed oil were adjusted to obtain these ratios. The dietary .alpha.-linolenate to linoleate balance was reflected in the **proportion** of (**n-3**) and (**n-6**) highly unsatd. **fatty acids** with 20- and 22-carbon chains in spleen phospholipids, but the ratio did not affect the proportion of T lymphocyte subsets expressing CD4 and CD8 antigens in splenic leukocytes. The Ig (Ig) G and IgM responses against sheep red blood cells when estd. as plaque-forming cells present in spleen, were not affected significantly by the diets. However, the serum hemagglutinin titer was slightly but significantly higher in the high .alpha.-linolenate diet group [18:3(n-3)/18:2(n-6) = 3.9] than in the dietary groups with 18:3(**n-3**) to 18:2(**n-6**) **ratios** of 0.36 and <0.01. In contrast, the IgE antibody response against egg albumin, as well as the mortality from anaphylactic **shock** induced by a second challenge with antigen, was significantly lower in the high .alpha.-linolenate diet group [18:3(n-3)/18:2(n-6) = 3.9] than in the high linoleate diet [18:3(n-3)/18:2(n-6) < 0.01] group. These results, together with the reported suppressive effects of a high .alpha.-linolenate diet on the formation of lipid-derived allergic mediators, support the hypothesis that raising the (**n-3**) to (**n-6**) **ratios** of diets would be effective in reducing the severity of immediate-type allergic hypersensitivity.

TI A high .alpha.-linolenate diet suppresses antigen-induced immunoglobulin E response and anaphylactic **shock** in mice
AB Mice were fed for 2 mo diets having **ratios** of .alpha.-linolenate [18:3(**n-3**)] to linoleate [18:2(n-6)] of <0.01, 0.36, 1.0 and 3.9. Proportions of safflower seed oil and perilla seed oil were

adjusted to obtain these ratios. The dietary .alpha.-linolenate to linoleate balance was reflected in the **proportion** of (**n-3**) and (**n-6**) highly unsatd. **fatty acids** with 20- and 22-carbon chains in spleen phospholipids, but the ratio did not affect the proportion of T lymphocyte subsets expressing CD4 and CD8 antigens in splenic leukocytes. The Ig (Ig) G and IgM responses against sheep red blood cells when estd. as plaque-forming cells present in spleen, were not affected significantly by the diets. However, the serum hemagglutinin titer was slightly but significantly higher in the high .alpha.-linolenate diet group [18:3(n-3)/18:2(n-6) = 3.9] than in the dietary groups with 18:3(**n-3**) to 18:2(**n-6**) **ratios** of 0.36 and <0.01. In contrast, the IgE antibody response against egg albumin, as well as the mortality from anaphylactic **shock** induced by a second challenge with antigen, was significantly lower in the high .alpha.-linolenate diet group [18:3(n-3)/18:2(n-6) = 3.9] than in the high linoleate diet [18:3(n-3)/18:2(n-6) < 0.01] group. These results, together with the reported suppressive effects of a high .alpha.-linolenate diet on the formation of lipid-derived allergic mediators, support the hypothesis that raising the (**n-3**) to (**n-6**) **ratios** of diets would be effective in reducing the severity of immediate-type allergic hypersensitivity.

ST linolenate diet IgE anaphylactic **shock** allergy

IT Anaphylaxis
(a high .alpha.-linolenate diet suppresses antigen-induced IgE response and anaphylactic **shock**)

IT Safflower oil
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(a high .alpha.-linolenate diet suppresses antigen-induced IgE response and anaphylactic **shock**)

IT Immunoglobulins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(E, a high .alpha.-linolenate diet suppresses antigen-induced IgE response and anaphylactic **shock**)

IT Agglutinins and Lectins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(hemagglutinins, a high .alpha.-linolenate diet suppresses antigen-induced IgE response and anaphylactic **shock**)

IT Allergy
(hypersensitivity, a high .alpha.-linolenate diet suppresses antigen-induced IgE response and anaphylactic **shock**)

IT Fats and Glyceridic oils
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(perilla, a high .alpha.-linolenate diet suppresses antigen-induced IgE response and anaphylactic **shock**)

IT **Fatty acids**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(polyunsatd., **n-3**, a high .alpha.-linolenate diet suppresses antigen-induced IgE response and anaphylactic **shock**)

IT **Fatty acids**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(polyunsatd., **n-6**, a high .alpha.-linolenate diet suppresses antigen-induced IgE response and anaphylactic **shock**

)

IT 60-33-3, Linoleic acid, biological studies 463-40-1, .alpha.-Linolenic acid
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(a high .alpha.-linolenate diet suppresses antigen-induced IgE response and anaphylactic **shock**)

L7 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1994:481750 CAPLUS
DN 121:81750
TI Effects of dietary fat compositions on alimentary anaphylaxis and formaldehyde sensitization in guinea pigs
AU Malikova, N. A.; Pestova, M. I.; Krzhechkovskaya, V. V.; Gmoshinsky, I. V.; Mazo, V. K.
CS Inst. Pitan., Moscow, Russia
SO Voprosy Pitaniya (1993), (5), 50-3
CODEN: VPITAR; ISSN: 0042-8833
DT Journal
LA Russian
AB Adult guinea pigs were fed for 10-11 days with synthetic diets, fat constituting 11% of total dietary energy. Dietary fat was composed of coconut, corn, dairy and soybean oils mixts. with the **ratio** of polyunsatd. fatty acids (PUFA) .**omega**.-**6** to PUFA .**omega**.-**3** equal to 24.2 (K1) or 5.53 (K2). The animals were sensitized orally by pasteurized cow milk (PCM) or epicutaneously by formaldehyde (F) during feeding of these diets. The degree of the sensitization was assessed in the reaction of active anaphylactic **shock** (AAS) in PCM-sensitized animals and in the reaction of leukocytes specific lysis (LSL) in F-sensitized guinea pigs. In the latter pigs the concn. of serum antibodies (Ab) against dietary soya protein was measured by ELISA. Animals fed by K1 and K2 were also tested for histamine mean LD resistance. The lowest lethality in AAS, no. of convulsions, of pos. LSL cases and Ab level were found in animals fed by K1 compared to both K2 and to animals fed by common animal chow. Resistance to histamine was similar in K1 and K2 groups, but was significantly higher compared to the control (chow) group. In convulsion, the changes in PUFA .**omega**.-**6**/PUFA .**omega**.-**3 ratio** have marked effects on different indexes of allergic sensitivity.
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IT **Fatty acids**, biological studies

RL: BIOL (Biological study)
(polyunsatd., **n-3**, alimentary anaphylaxis and
formaldehyde sensitization in relation to level of dietary)

IT **Fatty acids**, biological studies
RL: BIOL (Biological study)
(polyunsatd., **n-6**, alimentary anaphylaxis and
formaldehyde sensitization in relation to level of dietary)

L7 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
AN 1991:606821 CAPLUS
DN 115:206821
TI Long-term feeding with structured lipid composed of medium-chain and
n-3 fatty acids ameliorates
endotoxic **shock** in guinea pigs
AU Teo, Tiew C.; Selleck, Kelley M.; Wan, Jennifer M. F.; Pomposelli, James
J.; Babayan, Vigen K.; Blackburn, George L.; Bistrian, Bruce R.
CS Dep. Surg., Aberdeen R. Infirm., Aberdeen, UK
SO Metabolism, Clinical and Experimental (1991), 40(11), 1152-9
CODEN: METAAJ; ISSN: 0026-0495
DT Journal
LA English
AB The metabolic and physiol. responses to 7-h endotoxin infusion (5.0 mg/kg
h) were evaluated in guinea pigs following 6 wk of dietary enrichment with
diets contg. either chem. structured lipid (SL) composed of medium-chain
triglycerides (MCT) and long-chain triglycerides (LCT) in the form of
n-3 polyunsatd. **fatty acids** (PUFAs),
or safflower oil (SO), which is high in **n-6**
fatty acids. Plasma phospholipid fatty acid profiles,
arterial blood pH, Pco2, Po2, HCO2, lactate, blood pressure, oxygen
consumption, and energy expenditure were examd. Plasma phospholipid fatty
acids profiles reflected dietary intake with SL-fed animals demonstrating
a significantly higher **n-3** to **n-6**
fatty acid ratio compared with SO-fed animals,
SL-fed animals responded to endotoxemia with a mild metabolic acidosis
with respiratory compensation, which was assocd. with moderate lactatemia
(3 mmol/L). SO-fed animals developed a severe metabolic acidosis with
acidemia and respiratory compensation, which was assocd. with
hyperlactatemia (8 mmol/L). No differences were obsd. in blood pressure,
oxygen consumption, energy expenditure, or RQ during endotoxemia between
dietary groups compared with controls. Diets enriched with structured
lipid composed of medium-chain and **n-3 fatty**
acids can thus attenuate the sequelae of endotoxemia.
TI Long-term feeding with structured lipid composed of medium-chain and
n-3 fatty acids ameliorates
endotoxic **shock** in guinea pigs
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or safflower oil (SO), which is high in **n-6**
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arterial blood pH, Pco2, Po2, HCO2, lactate, blood pressure, oxygen
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oxygen consumption, energy expenditure, or RQ during endotoxemia between dietary groups compared with controls. Diets enriched with structured lipid composed of medium-chain and **n-3 fatty acids** can thus attenuate the sequelae of endotoxemia.

ST fatty acid diet endotoxin **shock**

IT Phospholipids, biological studies
RL: BIOL (Biological study)
(fatty acids of, of blood plasma in endotoxic **shock**, dietary medium-chain and **n-3 fatty acids** effect on)

IT Blood
(indexes of, in endotoxic **shock**, dietary medium-chain and **n-3 fatty acids** effect on)

IT **Shock**
(endotoxin, dietary medium-chain and **n-3 fatty acids** amelioration of)

IT Fatty acids, biological studies
RL: BIOL (Biological study)
(medium-chain, endotoxic **shock** amelioration with dietary **n-3 fatty acids** and)

IT **Fatty acids**, biological studies
RL: BIOL (Biological study)
(polyunsatd., **n-3**, endotoxic **shock** amelioration with dietary medium-chain fatty acids and)

L7 ANSWER 8 OF 8 MEDLINE on STN

AN 88057550 MEDLINE

DN 88057550 PubMed ID: 3119485

TI [Essential fatty acids in parenteral nutrition].
Essentielle Fettsauren in der parenteralen Ernahrung.

AU Wolfram G

CS Institut fur Ernahrungswissenschaft der TU Munchen, Weihenstephan.

SO INFUSIONSTHERAPIE UND KLINISCHE ERNAHRUNG, (1987 Sep) 14 Suppl 3 20-8.
Ref: 60
Journal code: 7613112. ISSN: 0378-0791.

CY Switzerland

DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)

LA German

FS Priority Journals

EM 198712

ED Entered STN: 19900305
Last Updated on STN: 19900305
Entered Medline: 19871224

AB Fat is a very important nutrient in that it supplies energy, essential fatty acids and fat soluble vitamins. The importance of **n-6** essential **fatty acids**, i.e., linoleic and arachidonic acid, in total parenteral nutrition was demonstrated in the last 15 years by several cases of essential fatty acid deficiency. In addition, **n-3 fatty acids**, i.e., alpha-linolenic acid, eicosapentaenoic acid and docosahexaenoic acid, are essential nutrients in forming an independent family of eicosanoids with biological effects different from those of the **n-6 fatty acids**. The requirement of different essential fatty acids in patients with total parenteral nutrition after heavy injury is of special interest with respect to the development and prognosis of **shock**, **sepsis** or adult respiratory distress syndrome. The available soy oil based fat emulsions contain **n-6** and **n-3 fatty acids** in a suitable **proportion** of 7:1, but further information on essential fatty acid requirement in different diseases is necessary.

AB . . . is a very important nutrient in that it supplies energy, essential fatty acids and fat soluble vitamins. The importance of **n-6** essential **fatty acids**, i.e., linoleic and arachidonic acid, in total parenteral nutrition was demonstrated in the last 15 years by several cases of essential fatty acid deficiency. In addition, **n-3 fatty acids**, i.e., alpha-linolenic acid, eicosapentaenoic acid and docosahexaenoic acid, are essential nutrients in forming an independent family of eicosanoids with biological effects different from those of the **n-6 fatty acids**. The requirement of different essential fatty acids in patients with total parenteral nutrition after heavy injury is of special interest with respect to the development and prognosis of **shock**, **sepsis** or adult respiratory distress syndrome. The available soy oil based fat emulsions contain **n-6** and **n-3 fatty acids** in a suitable **proportion** of 7:1, but further information on essential fatty acid requirement in different diseases is necessary.

=> d his

(FILE 'HOME' ENTERED AT 18:46:07 ON 19 FEB 2004)

FILE 'CAPLUS, WPIDS, MEDLINE, FSTA' ENTERED AT 18:47:53 ON 19 FEB 2004
L1 3186 S ((N6 OR N 6) (3A) (FATTY ACID#)) AND ((N3 OR N 3)(3A) (FATTY
L2 1816 S ((OMEGA 6) (3A) (FATTY ACID#)) AND ((OMEGA 3) (3A) (FATTY ACI
L3 4592 S L1 OR L2
L4 5371 S (N6 OR N 6 OR N3 OR N 3 OR OMEGA 6 OR OMEGA 3) (10A) (RATIO O
L5 1551 S L3 AND L4
L6 10 S L5 AND (SEPSIS OR SEPTIC OR SHOCK#)
L7 8 DUP REM L6 (2 DUPLICATES REMOVED)

=> s l5 not l6
L8 1541 L5 NOT L6

=> s l8 and (mct or medium chain triglyceride#)
L9 13 L8 AND (MCT OR MEDIUM CHAIN TRIGLYCERIDE#)

=> dup rem l9
PROCESSING COMPLETED FOR L9
L10 11 DUP REM L9 (2 DUPLICATES REMOVED)

=> d 1-11 bib ab kwic

L10 ANSWER 1 OF 11 MEDLINE on STN
AN 2003093481 MEDLINE
DN 22441829 PubMed ID: 12553951
TI Impact of **omega-3 fatty acid** enriched TPN on leukotriene synthesis by leukocytes after major surgery.
AU Koller M; Senkal M; Kemen M; Konig W; Zumtobel V; Muhr G
CS Department of Surgery, BG Kliniken Bergmannsheil, Universitatsklinik, Bochum, Germany.
SO CLINICAL NUTRITION, (2003 Feb) 22 (1) 59-64.
Journal code: 8309603. ISSN: 0261-5614.
CY Scotland: United Kingdom
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LA English
FS Priority Journals
EM 200307

ED Entered STN: 20030228
Last Updated on STN: 20030718
Entered Medline: 20030717

AB Major surgery leads to post-traumatic immune dysregulation which is driven by the activation of potent proinflammatory mediators including the leukotrienes (LTs). The LTs of the four-series derive from arachidonic acid (an **omega-6 fatty acid**). In contrast, LTs of the five-series are metabolic products of eicosapentaenoic acid (an **omega-3 fatty acid**) and exert less biological activities. Therapeutical strategies to attenuate proinflammatory signals include the provision of **omega-3 fatty acids**. Thirty patients with major elective abdominal surgery and an indication for total parenteral nutrition (TPN) were compared in a prospective, double blind, randomized study of two parallel groups. Group 1 (n=14) received an **omega-3 fatty acid** enriched 20% lipid emulsion (**MCT**:LCT:fish oil = 5:4:1, MLF541; Lipoplus) for 5 days postoperatively. Group 2 (n=16) received a standard 20% fat emulsion (LCT; Intralipid). The LT release from whole blood leukocytes stimulated with Ca-ionophore was analyzed preoperatively and on postoperative days 1, 6 and 8 by HPLC. There was a significant increase in the generation of LTB(5) (P=0.0035) and in the **ratio** of LTB(5)/LTB(4) (P=0.0017) the **omega-3** group, but not in the reference group after 5 days infusion of the lipid emulsions. The **omega-6/omega-3 fatty acid ratio** 3:1 of the newly developed MLF541 lipid emulsion is appropriate to increase the synthesis of the biologically less active leukotrienes of the five-series. Nutritive enrichment with **omega-3 fatty acids** in a balanced **ratio** with **omega-6 fatty acids** is an important step to avoid hyperinflammatory situations in patients after major surgery.

TI Impact of **omega-3 fatty acid** enriched TPN on leukotriene synthesis by leukocytes after major surgery.

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CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
*Abdomen: SU, surgery

Aged
Chromatography, High Pressure Liquid
Double-Blind Method
***Fatty Acids, Omega-3: PD, pharmacology**
*Leukocytes: ME, metabolism
*Leukotrienes: BI, biosynthesis
Middle Age
*Parenteral Nutrition, Total
Prospective Studies
Statistics, Nonparametric
*Surgical. . .
CN 0 (**Fatty Acids, Omega-3**); 0 (Leukotrienes)

L10 ANSWER 2 OF 11 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2003-127890 [12] WPIDS
CR 1995-310360 [40]; 1995-358387 [46]; 1999-589273 [50]
DNC C2003-032649
TI Product useful for the treatment of patients with ulcerative colitis comprises a combination of a source of indigestible carbohydrate and an oil blend of fatty acids.
DC B05
IN DEMICHELE, S J; FULLER, M K; GARLEB, K A; MCEWEN, J W
PA (ABBO) ABBOTT LAB
CYC 1
PI US 6468987 B1 20021022 (200312)* 19p
ADT US 6468987 B1 CIP of US 1994-221349 19940401, Div ex US 1998-83736 19980522, US 1999-395509 19990914
FDT US 6468987 B1 CIP of US 5780451, Div ex US 5952314
PRAI US 1998-83736 19980522; US 1994-221349 19940401; US 1999-395509 19990914
AB US 6468987 B UPAB: 20030218
NOVELTY - A product comprises a combination of a source of indigestible carbohydrate and an oil blend of fatty acids.

DETAILED DESCRIPTION - A product comprises a combination of a source of indigestible carbohydrate (16.9-22.8 g/l) and an oil blend of fatty acids. The source of indigestible carbohydrate is metabolized to short chain fatty acids by microorganisms present in the human colon, and comprises at least one material selected from dietary fibers and indigestible oligosaccharides (preferably gum arabic, soy polysaccharide, fructooligosaccharide, hydrolyzed inulin or xylooligosaccharide). The fatty acids (%) in the oil blend are selected from oleic acid (18:1n9) (11.5-15.7, preferably 12.1-15.1, especially 15.2), linoleic acid (18:2n6) (6.6-9, preferably 7-8.6, especially 7.2), alpha -linoleic acid (918:3n3) (1.5-2.1, preferably 1.6-2, especially 2.2), eicosapentaenoic acid (20:5n3) (15.1-20.5, preferably 16-19.6, especially 17.1) and docosahexaenoic acid (2:6n3) (6.3-8.6, preferably 6.7-8.3, especially 7.7).

ACTIVITY - Antiinflammatory; Antiulcer; Antidiarrheic; Vulnerary.

MECHANISM OF ACTION - Weight gain promoter.

USE - For the treating ulcerative colitis (claimed); for the treatment of patients with inflammatory bowel diseases e.g. diversion colitis, Crohn's disease and diarrhea. Also useful for wound healing.

ADVANTAGE - The product provides improved optimal nutritional status of adults and children, virtual absence of side effects, and possible decreased dosage of prescribed drugs; and promotes weight gain.

Dwg.0/5
TECH UPTX: 20030218
TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Product: The **ratio** of the sum of all of the **n-6 fatty acids** in the oil blend to the sum of all of the **n-3 fatty acids** in the oil blend is

0.25- 4. The ratio of linoleic acid in the oil blend to alpha-linoleic acid in. . . at least one oil (O1), which contains eicosapentaenoic acid and docosahexaenoic acid. The oil blend comprises (wt.%) canola oil (5-40), **medium chain triglycerides** (10-50), fish oil (25-80), soybean oil (3-30), and soy lecithin (2-6). Preferred Components: The source of indigestible carbohydrates is a. . .

L10 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:62073 CAPLUS
DN 138:353183
TI Impact of **omega-3 fatty acid** enriched TPN on leukotriene synthesis by leukocytes after major surgery
AU Koller, M.; Senkal, M.; Kemen, M.; Konig, W.; Zumtobel, V.; Muhr, G.
CS BG Kliniken Bergmannsheil, Department of Surgery, Universitatsklinik, Bochum, 44789, Germany
SO Clinical Nutrition (2002), Volume Date 2003, 22(1), 59-64
CODEN: CLNUDP; ISSN: 0261-5614
PB Elsevier Science Ltd.
DT Journal
LA English
AB Major surgery leads to post-traumatic immune dysregulation driven by the activation of potent proinflammatory mediators, including leukotrienes (LT). LT of the 4th series derive from arachidonic acid (**n-6 fatty acid**). LT of the 5th series are metabolic products of eicosapentaenoic acid (**n-3 fatty acid**) and have less biol. activities. Therapeutical strategies to attenuate the proinflammatory signals include the provision of **n-3 fatty acids**. Patients (n=30; 15 men, 15 women) with major elective abdominal surgery and indications for total parenteral nutrition (TPN) were prospectively compared in 2 parallel groups. Group 1 (n=14) received **n-3 fatty acid** enriched 20% lipid emulsion (**MCT**/LCT/fish oil = 5:4:1, MLF541; Lipoplus) for 5 days postoperatively. Group 2 (n = 16) received std. 20% fat emulsion (LCT; Intralipid). The LT release from whole blood leukocytes stimulated with the Ca ionophore A-23187 was analyzed preoperatively and on postoperative days 1, 6, and 8 by HPLC. There was an increase in the generation of LTB5 and in the LTB5/LTB4 ratio in group 1, but not in group 2 after 5 day of infusion of the lipid emulsions. The **n-6/n-3 fatty acid ratio** of 3:1 in the MLF541 lipid emulsion is appropriate to increase the biosynthesis of the biol. less active leukotrienes of the 5th series. Nutritive enrichment with **n-3 fatty acids** in a balanced **ratio** with **n-6 fatty acids** is an important step to avoid hyperinflammatory situations in patients after major surgery.
RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT
TI Impact of **omega-3 fatty acid** enriched TPN on leukotriene synthesis by leukocytes after major surgery
AB Major surgery leads to post-traumatic immune dysregulation driven by the activation of potent proinflammatory mediators, including leukotrienes (LT). LT of the 4th series derive from arachidonic acid (**n-6 fatty acid**). LT of the 5th series are metabolic products of eicosapentaenoic acid (**n-3 fatty acid**) and have less biol. activities. Therapeutical strategies to attenuate the proinflammatory signals include the provision of **n-3 fatty acids**. Patients (n=30; 15 men, 15 women) with major elective abdominal surgery and indications for total parenteral nutrition (TPN) were prospectively compared in 2 parallel groups. Group 1 (n=14) received **n-3 fatty acid** enriched 20% lipid emulsion (

MCT/LCT/fish oil = 5:4:1, MLF541; Lipoplus) for 5 days postoperatively. Group 2 (n = 16) received std. 20% fat emulsion (LCT; Intralipid). The LT release from whole blood leukocytes stimulated with the Ca ionophore A-23187 was analyzed preoperatively and on postoperative days 1, 6, and 8 by HPLC. There was an increase in the generation of LTB5 and in the LTB5/LTB4 ratio in group 1, but not in group 2 after 5 day of infusion of the lipid emulsions. The **n-6/n-3 fatty acid ratio** of 3:1 in the MLF541 lipid emulsion is appropriate to increase the biosynthesis of the biol. less active leukotrienes of the 5th series. Nutritive enrichment with **n-3 fatty acids** in a balanced **ratio** with **n-6 fatty acids** is an important step to avoid hyperinflammatory situations in patients after major surgery.

IT Human
Leukocyte
Surgery
(dietary **n-3 fatty acids** in enriched total parenteral nutrition infusions effects on leukotriene biosynthesis by blood leukocytes in patients after major surgery)

IT Leukotrienes
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(dietary **n-3 fatty acids** in enriched total parenteral nutrition infusions effects on leukotriene biosynthesis by blood leukocytes in patients after major surgery)

IT Nutrition, animal
(parenteral, total; dietary **n-3 fatty acids** in enriched total parenteral nutrition infusions effects on leukotriene biosynthesis by blood leukocytes in patients after major surgery)

IT **Fatty acids**, biological studies
RL: BSU (Biological study, unclassified); FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(polyunsatd., **n-3**; dietary **n-3 fatty acids** in enriched total parenteral nutrition infusions effects on leukotriene biosynthesis by blood leukocytes in patients after major surgery)

IT **Fatty acids**, biological studies
RL: BSU (Biological study, unclassified); FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(polyunsatd., **omega-6**; dietary **n-3 fatty acids** in enriched total parenteral nutrition infusions effects on leukotriene biosynthesis by blood leukocytes in patients after major surgery)

IT 71160-24-2, Ltb4 72025-60-6, Ltc4 75207-09-9, Ltc5 80445-66-5, Ltb5
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(dietary **n-3 fatty acids** in enriched total parenteral nutrition infusions effects on leukotriene biosynthesis by blood leukocytes in patients after major surgery)

IT 358980-38-8, Lipoplus
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(dietary **n-3 fatty acids** in enriched total parenteral nutrition infusions effects on leukotriene biosynthesis by blood leukocytes in patients after major surgery)

L10 ANSWER 4 OF 11 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
AN 1999-589273 [50] WPIDS
CR 1995-310360 [40]; 1995-358387 [46]; 2003-127890 [12]
DNC C1999-171988
TI Nutritional products, comprising indigestible carbohydrate and an oil blend, useful in treating ulcerative colitis.
DC B05

IN DEMICHELE, S J; FULLER, M K; GARLEB, K A; MCEWEN, J W
PA (DEMI-I) DEMICHELE S J; (FULL-I) FULLER M K; (GARL-I) GARLEB K A; (MCEW-I) MCEWEN J W
CYC 1
PI US 5952314 A 19990914 (199950)* 21p
ADT US 5952314 A CIP of US 1994-221349 19940401, US 1998-83736 19980522
FDT US 5952314 A CIP of US 5780451
PRAI US 1998-83736 19980522; US 1994-221349 19940401
AB US 5952314 A UPAB: 20030218
NOVELTY - A combination of indigestible carbohydrate (which is metabolized to short chain fatty acids by microorganisms in the colon) and an oil blend containing eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) is used in enteral nutritional products for the treatment of ulcerative colitis.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for:

(A) a nutritional product for enteral feeding, comprising:

(a) a source of indigestible carbohydrate which is (i) metabolized to short chain fatty acids by microorganisms present in the human colon and (ii) comprises dietary fibers; and

(b) an oil blend comprising (all given as percentages by weight of total fatty acids in the oil blend) oleic acid (11.5-15.7), linoleic acid (6.6-9.0), alpha -linolenic acid (1.5-2.1), EPA (15.1-20.5) and DHA (6.3-8.6).

(B) a nutritional product for enteral feeding, comprising:

(a) an oil blend which comprises at least 25 wt.% of one or more oils which contain EPA and DHA;

(b) a source of indigestible carbohydrate which is (i) metabolized to short chain fatty acids by microorganisms present in the human colon and (ii) comprises indigestible oligosaccharides; and

(c) at least one nutrient selected from beta -carotene, vitamin E, vitamin C, taurine and selenium. In component (a), the weight ratio of EPA to DHA is 1.76-3.25.

(C) a nutritional product for enteral feeding, comprising:

(a) an oil blend comprising 5-40 canola oil, 10-50 wt.% **medium chain triglycerides**, 25-80 wt.% fish oil, 3-30 wt.% soybean oil and 2-6 wt.% soy lecithin;

(b) a source of indigestible carbohydrate which is (i) metabolized to short chain fatty acids by microorganisms present in the human colon and (ii) comprises gum arabic and/or soy polysaccharide;

(c) at least one nutrient selected from beta -carotene, vitamin E, vitamin C, taurine and selenium; and

(d) a source of protein.

ACTIVITY - Antiinflammatory; antiulcer.

MECHANISM OF ACTION - The nutritional products can have the effect of modulating local eicosanoid production (producing an antiinflammatory effect) and decrease hyperimmune responses, resulting in reduced mucosal ulceration and disease activity index.

USE - The nutritional products are useful as nutritional support for patients suffering from ulcerative colitis.

ADVANTAGE - The nutritional products do not cause side effects and can allow a reduction in dosages of prescribed drugs. The combination of indigestible carbohydrate and oil may increase the incorporation of **n-3 fatty acids** into colonocytes.

Dwg.0/5

AB . . .

(C) a nutritional product for enteral feeding, comprising:

(a) an oil blend comprising 5-40 canola oil, 10-50 wt.% **medium chain triglycerides**, 25-80 wt.% fish oil, 3-30 wt.% soybean oil and 2-6 wt.% soy lecithin;

(b) a source of indigestible carbohydrate which. . . allow a reduction in dosages of prescribed drugs. The combination of indigestible carbohydrate and oil may increase the incorporation of **n-**

3 fatty acids into colonocytes.
Dwg.0/5

TECH. . .
acids in the oil blend) oleic acid (12.1-15.1), linoleic acid (7.0-8.6), alpha-linolenic acid (1.6-2.0), EPA (16.0-19.6) and DHA (6.7-8.3). The **ratio** of the sum of all the **n-6 fatty acids** in the blend to the sum of all the **n-3 fatty acids** in the blend is 0.25-4.0. The ratio of linoleic acid in the blend to alpha-linolenic acid in the blend is. . . oleic safflower oil, high oleic sunflower oil, olive oil, borage oil, black currant seed oil and evening primrose oil. The **ratio** of the sum of all the **n-6 fatty acids** in the blend to the sum of all the **n-3 fatty acids** in the blend is 0.25-4.0. The ratio of linoleic acid in the blend to alpha-linolenic acid in the blend is. . . acids in the oil blend) oleic acid (12.1-15.1), linoleic acid (7.0-8.6), alpha-linolenic acid (1.6-2.0), EPA (16.0-19.6) and DHA (6.7-8.3). The **ratio** of the sum of all the **n-6 fatty acids** in the blend to the sum of all the **n-3 fatty acids** in the blend is 0.25-4.0. The ratio of linoleic acid in the blend to alpha-linolenic acid in the blend is. . . high-oleic safflower oil, high oleic sunflower oil, olive oil, borage oil, black currant seed oil and evening primrose oil. The **ratio** of the sum of all the **n-6 fatty acids** in the blend to the sum of all the **n-3 fatty acids** in the blend is 0.25-4.0. The ratio of linoleic acid in the blend to alpha-linolenic acid in the blend is. . .

L10 ANSWER 5 OF 11 MEDLINE on STN
AN 1999271942 MEDLINE
DN 99271942 PubMed ID: 10342514
TI Fatty acid composition of platelet membrane lipids after administration of two different fat emulsions in critically ill patients.
AU Planas M; Porta I; Sagrista M L; Mora M; Padro J B; Pico M
CS Intensive Care Unit, Hospital General Vall d'Hebron, Barcelona, Spain.
SO INTENSIVE CARE MEDICINE, (1999 Apr) 25 (4) 395-8.
Journal code: 7704851. ISSN: 0342-4642.
CY United States
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LA English
FS Priority Journals
EM 199908
ED Entered STN: 19990816
Last Updated on STN: 19990816
Entered Medline: 19990805
AB OBJECTIVE: To determine the effects on platelet membrane fatty acid composition following administration of two different fat emulsions. DESIGN: Prospective, randomized, double-blind study. SETTING: Intensive care unit in a university-affiliated hospital. PATIENTS: 12 adult critically ill patients in need of total parenteral nutrition. INTERVENTIONS: Patients were treated with total parenteral nutrition (TPN) for 7 days, receiving for fat intake either a long-chain triglyceride (20% LCT) emulsion (group 1, n=6) or a **medium-chain triglyceride**-LCT (20% **MCT**/LCT) emulsion (group 2, n=6). MEASUREMENTS AND RESULTS: High-performance liquid chromatography of membrane fatty acids was carried out before and after 7 days of TPN. In the LCT group, an increase in C18:2n-6 and a decrease in caprylic acid and docosahexaenoic acid, which resulted in a decreased **ratio** of **n-3/n-6 fatty acid** content, was observed. In the **MCT**/LCT group, a reduced

percentage of palmitoleic acid and arachidonic acid was shown. CONCLUSIONS: The observed changes in fatty acid composition are in agreement with the lipid composition of the fat emulsions used. Because the C18:2n-6/C18:3n-3 ratio in both emulsions is close (approximately 9.0), the observed changes in the fatty acid composition of platelets may not be relevant for platelet function.

AB . . . (TPN) for 7 days, receiving for fat intake either a long-chain triglyceride (20% LCT) emulsion (group 1, n=6) or a **medium-chain triglyceride**-LCT (20% **MCT**/LCT) emulsion (group 2, n=6). MEASUREMENTS AND RESULTS: High-performance liquid chromatography of membrane fatty acids was carried out before and after. . . LCT group, an increase in C18:2n-6 and a decrease in caprylic acid and docosahexaenoic acid, which resulted in a decreased **ratio** of **n-3/n-6 fatty acid** content, was observed. In the **MCT**/LCT group, a reduced percentage of palmitoleic acid and arachidonic acid was shown. CONCLUSIONS: The observed changes in fatty acid composition. . .

L10 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:189932 CAPLUS
DN 126:190943
TI Composition for nutrition
IN Windenband, Albrecht; Pausch, Gudrun; Karsten, Simone
PA B. Braun Melsungen Ag, Germany
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 756827	A2	19970205	EP 1996-112251	19960730
	EP 756827	A3	19970917		
	EP 756827	B1	20021127		
	R: BE, DE, ES, FR, GB, IT, NL				
	DE 19528461	A1	19970206	DE 1995-19528461	19950803
	JP 09121809	A2	19970513	JP 1996-200120	19960730
	ES 2187595	T3	20030616	ES 1996-112251	19960730
PRAI	DE 1995-19528461	A	19950803		

AB A compn. for enteral or oral nutrition of patients with immune deficiencies, immune diseases, tumors, inflammatory, or other disorders comprises protein or protein hydrolyzate, carbohydrate, fat, fiber, and water, the fat content being 20-30 energy **percent** and consisting of **medium-chain triglycerides** 30-70, **n-3/n-6 fatty acids** 1-3.1 to 1-7 **ratio, n-6**/n-9 **fatty acids** 1-0.7 to 1-1.4 ratio, simple unsatd. fatty acids/polyunsatd. fatty acids ratio of 1-0.5 to 1-1.5, and the protein component contains 0.5-3.0 g glutamine/100 mL.

AB A compn. for enteral or oral nutrition of patients with immune deficiencies, immune diseases, tumors, inflammatory, or other disorders comprises protein or protein hydrolyzate, carbohydrate, fat, fiber, and water, the fat content being 20-30 energy **percent** and consisting of **medium-chain triglycerides** 30-70, **n-3/n-6 fatty acids** 1-3.1 to 1-7 **ratio, n-6**/n-9 **fatty acids** 1-0.7 to 1-1.4 ratio, simple unsatd. fatty acids/polyunsatd. fatty acids ratio of 1-0.5 to 1-1.5, and the protein component contains 0.5-3.0 g glutamine/100 mL.

IT **Fatty acids,** biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(polyunsatd., **n-3**; enteral/oral feeding compn. for human nutrition)

L10 ANSWER 7 OF 11 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
AN 1997-434420 [40] WPIDS
DNC C1997-139322
TI Enteral nutritional compositions for mal-absorbing patients - containing whey hydrolysate, carbohydrate(s) and medium- and long-chain tri glyceride(s).
DC B04 D13
IN CHANG, S; JAUSSAN, V; STALKER, L; TWYMAN, D
PA (NEST) NESTEC LTD
CYC 1
PI US 5661123 A 19970826 (199740)* 6p
ADT US 5661123 A US 1995-372980 19950117
PRAI US 1995-372980 19950117
AB US 5661123 A UPAB: 19971006
The following are claimed: (1) an enteral composition designed for mal-absorbing patients comprising: a single protein source consisting of hydrolysed whey protein that comprises 22%-27% of the caloric distribution of the composition; a carbohydrate source; and a lipid source including a mixture of medium and long chain triglycerides; (2) a method for providing nutrition to a mal-absorbing patient comprising administering to the patient an effective amount of a composition as in (1), having an osmolality of 300 to 400 mOsm/kg; (3) a method for providing nutrition to mal-absorbing patient comprising administering to the patient an effective amount of a composition comprising: a single peptide based protein source consisting of whey hydrolysate and comprising 22%-27% of the caloric distribution of the composition; a carbohydrate source; and a lipid source including a mixture of medium and long chain triglycerides, the composition having an **omega-6** to **omega-3 fatty acid ratio** of 1:1 to 8:1;
(4) an enteral composition designed for mal-absorbing patients comprising: a single protein source consisting of hydrolysed whey protein that comprises 22%-27% of the caloric distribution of the composition; a carbohydrate source; and a lipid source including a mixture of medium and long chain triglycerides, the **medium chain triglycerides** comprising at least 70% of the caloric content of the lipid source; (5) an enteral composition designed for mal-absorbing patients comprising: a single protein source consisting of hydrolysed whey protein that comprises 22%-27% of the caloric distribution of the composition; a carbohydrate source; and a lipid source including a mixture of medium and long chain triglycerides, the **medium chain triglycerides** comprising at least 70% of the caloric content of the lipid source and the lipid source having an **omega-6** to **omega-3 ratio** of not more than 8:1; (6) a method for providing nutrition to a mal-absorbing patient comprising administering to the patient an effective amount of a composition comprising: a single peptide based protein source consisting of hydrolysed whey comprising 22%-27% of the caloric distribution of the composition; a carbohydrate source; and a lipid source including a mixture of medium and long chain triglycerides, where the **medium chain triglycerides** comprise at least 70% of the lipid source; (7) a method for providing nutrition to a mal-absorbing patient requiring glutathione repletion comprising administering to the patient an effective amount of a composition comprising: a single protein source consisting of hydrolysed whey; a carbohydrate source; and a lipid source including a mixture of medium and long chain triglycerides.
USE - The compositions are used for nutritional support of patients, especially mal-absorbing patients having elevated protein requirements, such as non-catabolic and moderately catabolic patients. The mal-absorbing patient suffers from a gastrointestinal disorder; or is a moderately

catabolic patient (claimed).
Dwg.0/0

AB . . .
a carbohydrate source; and a lipid source including a mixture of medium and long chain triglycerides, the composition having an **omega-6** to **omega-3 fatty acid** **ratio** of 1:1 to 8:1; (4) an enteral composition designed for mal-absorbing patients comprising: a single protein source consisting of hydrolysed. . . of the composition; a carbohydrate source; and a lipid source including a mixture of medium and long chain triglycerides, the **medium chain triglycerides** comprising at least 70% of the caloric content of the lipid source; (5) an enteral composition designed for mal-absorbing patients. . . of the composition; a carbohydrate source; and a lipid source including a mixture of medium and long chain triglycerides, the **medium chain** **triglycerides** comprising at least 70% of the caloric content of the lipid source and the lipid source having an **omega-6** to **omega-3 ratio** of not more than 8:1; (6) a method for providing nutrition to a mal-absorbing patient comprising administering to the patient. . . the composition; a carbohydrate source; and a lipid source including a mixture of medium and long chain triglycerides, where the **medium chain** **triglycerides** comprise at least 70% of the lipid source; (7) a method for providing nutrition to a mal-absorbing patient requiring glutathione. . .

L10 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
AN 1994:173506 CAPLUS
DN 120:173506
TI Nutritional product for persons having a neurological injury
IN Garleb, Keith Allen; Demichele, Stephen Joseph; Rausch, Linda Sue; Fuller, Martha Kay; Behr, Stephen Richard
PA Abbott Laboratories, USA
SO PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9402166	A1	19940203	WO 1993-US6005	19930623
	W: AT, AU, BR, CA, FI, JP, NO, NZ				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5308832	A	19940503	US 1992-920087	19920727
	JP 07507327	T2	19950810	JP 1993-504464	19930623
	AU 666246	B2	19960201	AU 1994-55747	19930623
	AU 9455747	A1	19940214		
PRAI	US 1992-920087	A	19920727		
	WO 1993-US6005	W	19930623		

AB An enteral nutritional product for a person having a neurol. injury is very low in carbohydrate, but high in fat and has a viscosity suitable for tube feeding. The fat is supplied by a lipid blend having a **ratio** of **n-6** to **n-3 fatty** **acids** in the range of 1 to 6. Preferably, the nutritional product contains nutrients having antioxidant properties, for example .beta.-carotene, vitamin E, vitamin C, taurine, Mo, and Se. For example, a formulation for head trauma contained **medium-chain** **triglycerides** 5.80, refined sardine oil (with high concn. of .omega.-3 fatty acids) 2.46, canola oil 6.62, borage oil 2.46, high-oleic acid safflower oil 5.88, acid casein 20.3 lb, soy lecithin 552, 20% NaOH 955, K citrate 223, Mg phosphate 185, $CaCO_3$ 231, $MgCl_2$ 92.5, $Ca_3(PO_4)_2$ 17.9, KCl 204, Na citrate 19.7, mineral premix (contg. Zn, Fe, Mn, Cu, Se,

Cr, and Mo) 28.3, KI 0.0218, oil-sol. vitamin premix (contg. vitamin A palmitate, vitamin D, DL-.alpha.-tocopheryl acetate, and phylloquinone) 6.94, DL-.alpha.-tocopheryl acetate 23.1, ascorbic acid 60, water-sol. vitamin premix (contg. niacinamide, Ca pantothenate, pyridoxine.cntdot.HCl, thiamin.cntdot.HCl, riboflavin, folic acid, biotin, cyanocobalamine) 12,8, taurine 17.6, carnitine 8.8, choline chloride 42.0g, and water 151 lbs.

AB An enteral nutritional product for a person having a neurol. injury is very low in carbohydrate, but high in fat and has a viscosity suitable for tube feeding. The fat is supplied by a lipid blend having a **ratio** of **n-6** to **n-3 fatty acids** in the range of 1 to 6. Preferably, the nutritional product contains nutrients having antioxidant properties, for example .beta.-carotene, vitamin E, vitamin C, taurine, Mo, and Se. For example, a formulation for head trauma contained **medium-chain triglycerides** 5.80, refined sardine oil (with high concn. of .omega.-3 fatty acids) 2.46, canola oil 6.62, borage oil 2.46, high-oleic acid safflower oil 5.88, acid casein 20.3 lb, soy lecithin 552, 20% NaOH 955, K citrate 223, Mg phosphate 185, CaCO3 231, MgCl2 92.5, Ca3(PO4)2 17.9, KCl 204, Na citrate 19.7, mineral premix (contg. Zn, Fe, Mn, Cu, Se, Cr, and Mo) 28.3, KI 0.0218, oil-sol. vitamin premix (contg. vitamin A palmitate, vitamin D, DL-.alpha.-tocopheryl acetate, and phylloquinone) 6.94, DL-.alpha.-tocopheryl acetate 23.1, ascorbic acid 60, water-sol. vitamin premix (contg. niacinamide, Ca pantothenate, pyridoxine.cntdot.HCl, thiamin.cntdot.HCl, riboflavin, folic acid, biotin, cyanocobalamine) 12,8, taurine 17.6, carnitine 8.8, choline chloride 42.0g, and water 151 lbs.

IT **Fatty acids**, biological studies
RL: BIOL (Biological study)
(polyunsatd., **n-3**, enteral nutritional compns. for neurol. injury patients contg., high-fat)

IT **Fatty acids**, biological studies
RL: BIOL (Biological study)
(polyunsatd., **n-6**, enteral nutritional compns. for neurol. injury patients contg., high-fat)

L10 ANSWER 9 OF 11 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
AN 1992-150161 [18] WPIDS
DNC C1992-069441
TI Liq. nutritional prod. - comprising fat source, and mixed soluble and insol and (non)fermentable fibre system.
DC A97 D13
IN ANLOAGUE, P; BEHR, S R; CHMURA, J N; CRAIG, L D; CUNNINGHAM, M B; GARLEB, K A; NEAL, C S; SERTL, D C; ANLOAGUE, P S
PA (ABBO) ABBOTT LAB
CYC 11
PI US 5104677 A 19920414 (199218)* 12p
WO 9300019 A1 19930107 (199304) EN 40p
AU 9219941 A 19930125 (199319)
EP 591277 A1 19940413 (199415) EN
AU 658902 B 19950504 (199526)
EP 591277 B1 19961016 (199646) EN 25p
R: BE DE DK ES FR GB IT NL SE
DE 69214650 E 19961121 (199701)
ES 2095476 T3 19970216 (199714)
ADT US 5104677 A US 1991-722439 19910627; WO 9300019 A1 WO 1992-US3801 19920507; AU 9219941 A AU 1992-19941 19920507; EP 591277 A1 EP 1992-912240 19920507, WO 1992-US3801 19920507; AU 658902 B AU 1992-19941 19920507; EP 591277 B1 EP 1992-912240 19920507, WO 1992-US3801 19920507; DE 69214650 E DE 1992-614650 19920507, EP 1992-912240 19920507, WO 1992-US3801 19920507; ES 2095476 T3 EP 1992-912240 19920507
FDT AU 9219941 A Based on WO 9300019; EP 591277 A1 Based on WO 9300019; AU

658902 B Previous Publ. AU 9219941, Based on WO 9300019; EP 591277 B1 Based on WO 9300019; DE 69214650 E Based on EP 591277, Based on WO 9300019; ES 2095476 T3 Based on EP 591277

PRAI US 1991-722439 19910627

AB US 5104677 A UPAB: 19931006

Liq. nutritional prod. comprises a fat source (I), and a dietary fibre system. The fibre system comprises (by wt.) 5-50% soluble and fermentable fibre (II), 5-20% soluble and non-fermentable fibre (III), and 45-80% insol and non-fermentable fibre (IV). In the prod. less than 10% of the total calories comprise satd. fatty acids, not more than 10% comprise polyunsatd. **fatty acids**, and the **ratio** (**n-6**):(**n-3**) **fatty acids** is 2-10:1.

Pref. (I) are canola, soy or linseed oils; opt. also mixed with high oleic safflower or sunflower oils, and **medium chain triglycerides**; a partic. pref. (I) is blend of 3.9% soy lecithin, and 96.1% of a mixt. contg. ca 30% canola oil, 50% high oleic safflower oil, and 20% **medium chain triglycerides**. Pref. (II) is gum arabic (at pref. 15-20%). Pref. (III) is Na carboxymethyl cellulose (at pref. 5-10%). Pref. (IV) is oat hull fibre (at pref. 70-80%). The prod. has **ratio** (**n-6**):(**n-3**) **fatty acids** pref. 4-10:1; viscosity not more than ca 100 cps; and osmolality 290-380 mosm/kg. An 8 fluid ounce serving provides 237-355 Kilocalories, 8.2-22.2 g of protein, 26.6-53.3 g of carbohydrate, and 5.3-14.1 g of fat.

ADVANTAGE - The fibre-contg. isotonic, nutritionally complete liq. food is suitable for total enteral support. The fatty acid profile meets the recommended levels, while the fibre, vitamin and mineral levels also meet requirements. (0/0)

0/0

AB . . .

In the prod. less than 10% of the total calories comprise satd. fatty acids, not more than 10% comprise polyunsatd. **fatty acids**, and the **ratio** (**n-6**):(**n-3**) **fatty acids** is 2-10:1.

Pref. (I) are canola, soy or linseed oils; opt. also mixed with high oleic safflower or sunflower oils, and **medium chain triglycerides**; a partic. pref. (I) is blend of 3.9% soy lecithin, and 96.1% of a mixt. contg. ca 30% canola oil, 50% high oleic safflower oil, and 20% **medium chain triglycerides**. Pref. (II) is gum arabic (at pref. 15-20%). Pref. (III) is Na carboxymethyl cellulose (at pref. 5-10%). Pref. (IV) is oat hull fibre (at pref. 70-80%). The prod. has **ratio** (**n-6**):(**n-3**) **fatty acids** pref. 4-10:1; viscosity not more than ca 100 cps; and osmolality 290-380 mosm/kg. An 8 fluid ounce serving provides 237-355. . .

ABEQ. . .

comprising saturated fatty acids, no more than 10% of the total calories in said product comprising polyunsaturated fatty acids, the **ratio** of the **n-6** to **n-3 fatty acids** in said product being in the range of 2 to 10, and at least one of the fat sources being. . .

L10 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2

AN 1993:58663 CAPLUS

DN 118:58663

TI Nonessential fatty acids in formula fat blends influence essential fatty acid metabolism and composition in plasma and organ lipid classes in piglets

AU Wall, Katharine M.; Diersen-Schade, Deborah; Innis, Sheila M.

CS Dep. Paediatr., Univ. British Columbia, Vancouver, BC, V5Z 4H4, Can.

SO Lipids (1992), 27(12), 1024-31

CODEN: LPDSAP; ISSN: 0024-4201
DT Journal
LA English
AB The **n-6** and **n-3 fatty acid** status of developing organs is the cumulative result of the diet lipid compn. and many complex events of lipid metab. Little information is available, however, on the potential effects of the satd. fatty acid chain length (8:0-16:0) or oleic acid (18:1) content of the diet on the subsequent metab. of the essential fatty acids 18:2n-6 and 18:3n-3 and their elongated/desatd. products. The effects of feeding piglets formulas with fat blends contg. either coconut oil (12.0 + 14.0) or **medium chain triglycerides** (**MCT**, 8:0 + 10:0) but similar levels of 18:1, 18:2n-6, and 18:3n-3, or **MCT** with high or low 18:1 but const. 18:2n-6 and 18:3n-3 on the fatty acid compn. of plasma, liver, and kidney triglycerides, phospholipids, and cholesteryl esters and of brain total lipid were studied. Diet-induced changes in the fatty acid compn. of lipid classes were generally similar for plasma, liver, and kidney. Dietary 18:1 content was reflected in tissue lipids and was inversely assocd. with levels of 18:2n-6. Lower percentage of 18:2n-6, however, was not assocd. with lower levels of its elongated/desatd. product 20:4n-6 but was assocd. with higher levels of 22:6n-3. Feeding coconut oil vs. **MCT** resulted in lower 18:1 levels in all lipids and higher percentages of 20:4n-6 in tissue phospholipid. Increasing the dietary **n-6/n-3 ratio** from 5 to 8 significantly increased tissue **percentage** of 18:2n-6 and decreased phospholipid 22:6n-3. In contrast to plasma, liver, and kidney, brain lipid fatty acid compn. was not influenced by the formula satd. fatty acid chain length, content of 18:1, or **n-6/n-3 ratio**. In summary, the dietary requirement for **n-6** and **n-3 fatty acids** may be influenced by the nonessential satd. and monounsatd. fatty acids fed concurrently.
AB The **n-6** and **n-3 fatty acid** status of developing organs is the cumulative result of the diet lipid compn. and many complex events of lipid metab. Little information is available, however, on the potential effects of the satd. fatty acid chain length (8:0-16:0) or oleic acid (18:1) content of the diet on the subsequent metab. of the essential fatty acids 18:2n-6 and 18:3n-3 and their elongated/desatd. products. The effects of feeding piglets formulas with fat blends contg. either coconut oil (12.0 + 14.0) or **medium chain triglycerides** (**MCT**, 8:0 + 10:0) but similar levels of 18:1, 18:2n-6, and 18:3n-3, or **MCT** with high or low 18:1 but const. 18:2n-6 and 18:3n-3 on the fatty acid compn. of plasma, liver, and kidney triglycerides, phospholipids, and cholesteryl esters and of brain total lipid were studied. Diet-induced changes in the fatty acid compn. of lipid classes were generally similar for plasma, liver, and kidney. Dietary 18:1 content was reflected in tissue lipids and was inversely assocd. with levels of 18:2n-6. Lower percentage of 18:2n-6, however, was not assocd. with lower levels of its elongated/desatd. product 20:4n-6 but was assocd. with higher levels of 22:6n-3. Feeding coconut oil vs. **MCT** resulted in lower 18:1 levels in all lipids and higher percentages of 20:4n-6 in tissue phospholipid. Increasing the dietary **n-6/n-3 ratio** from 5 to 8 significantly increased tissue **percentage** of 18:2n-6 and decreased phospholipid 22:6n-3. In contrast to plasma, liver, and kidney, brain lipid fatty acid compn. was not influenced by the formula satd. fatty acid chain length, content of 18:1, or **n-6/n-3 ratio**. In summary, the dietary requirement for **n-6** and **n-3 fatty acids** may be influenced by the nonessential satd.

and monounsatd. fatty acids fed concurrently.

L10 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1992:530350 CAPLUS
DN 117:130350
TI Influence of dietary fat on plasma fatty acid composition in rats
AU Rueda, P.; Lopez-Frias, M.; Llopis, J.; Mataix, F. J.; Urbano, G.
CS Inst. Nutr. Tecnol. Aliment., Univ. Granada, Granada, E-18071, Spain
SO Nutrition Research (New York, NY, United States) (1992), 12(6), 757-66
CODEN: NTRSDC; ISSN: 0271-5317
DT Journal
LA English
AB The influence of dietary fat on the plasma fatty acid compn. was studied in male Wistar rats fed 4 exptl. semisynthetic, isocaloric diets contg. different qualities of fat (olive oil, butter, **medium chain triglycerides** + corn oil 1:1, olive oil + butter + corn oil + **medium chain triglycerides** 1:1:1:1). The animals were studied from 21 days of age until a body wt. of .apprx.180 g (60 days) was reached. Under these exptl. conditions, feeding with the different diets failed to modify the satn. index, calcd. as the sum of the percentages of satd. fatty acids. In contrast, plasma levels of mono- and .omega.6 polyunsatd. fatty acids (sum of linoleic acid and its derivs.) were clearly influenced by the dietary content of these compds. However, the relation between **percentage** dietary plasma linoleic acid and **percentage** plasma **.omega.6** polyunsatd. fatty acids was not directly **proportional**. Diets contg. lower proportions of linoleic acid (butter and olive oil) led to significantly higher values of .omega.3 polyunsatd. acids (sum of linolenic acid and its derivs.) than diets with a larger proportion of this compd. (**medium chain triglycerides** + corn oil, and olive oil + butter + corn oil + **medium chain triglycerides**).
AB The influence of dietary fat on the plasma fatty acid compn. was studied in male Wistar rats fed 4 exptl. semisynthetic, isocaloric diets contg. different qualities of fat (olive oil, butter, **medium chain triglycerides** + corn oil 1:1, olive oil + butter + corn oil + **medium chain triglycerides** 1:1:1:1). The animals were studied from 21 days of age until a body wt. of .apprx.180 g (60 days) was reached. Under these exptl. conditions, feeding with the different diets failed to modify the satn. index, calcd. as the sum of the percentages of satd. fatty acids. In contrast, plasma levels of mono- and .omega.6 polyunsatd. fatty acids (sum of linoleic acid and its derivs.) were clearly influenced by the dietary content of these compds. However, the relation between **percentage** dietary plasma linoleic acid and **percentage** plasma **.omega.6** polyunsatd. fatty acids was not directly **proportional**. Diets contg. lower proportions of linoleic acid (butter and olive oil) led to significantly higher values of .omega.3 polyunsatd. acids (sum of linolenic acid and its derivs.) than diets with a larger proportion of this compd. (**medium chain triglycerides** + corn oil, and olive oil + butter + corn oil + **medium chain triglycerides**).
IT **Fatty acids**, biological studies
RL: BIOL (Biological study)
(polyunsatd., **n-3**, of blood plasma, dietary fats effect on)
IT **Fatty acids**, biological studies
RL: BIOL (Biological study)
(polyunsatd., **n-6**, of blood plasma, dietary fats effect on)

=> d 1-8 bib ab kwic

L7 ANSWER 1 OF 8 MEDLINE on STN
AN 2003216984 MEDLINE
DN 22623073 PubMed ID: 12615625
TI Parenteral nutrition with fish oil modulates cytokine response in patients with **sepsis**.
AU Mayer Konstantin; Gokorsch Stephanie; Fegbeutel Christine; Hattar Katja; Rosseau Simone; Walmrath Dieter; Seeger Werner; Grimminger Friedrich
CS Medizinische Klinik II, Justus-Liebig-University, Giessen, Germany.. Konstantin.Mayer@innere.med.uni-giessen.de
SO AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE, (2003 May 15) 167 (10) 1321-8.
Journal code: 9421642. ISSN: 1073-449X.
CY United States
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 200306
ED Entered STN: 20030513
Last Updated on STN: 20030612
Entered Medline: 20030611
AB Infusion of fish oil-based (n-3) lipids may influence leukocyte function and plasma lipids in critical care patients. Twenty-one patients with **sepsis** requiring parenteral nutrition were randomized to receive an n-3 lipid emulsion rich in eicosapentaenoic acid and docosahexaenoic acid or a conventional (**n-6**) lipid emulsion (index **fatty acid**: arachidonic acid) for 5 days. The impact on plasma-free fatty acids, mononuclear leukocyte cytokine generation, and membrane fatty acid composition was examined. Cytokine synthesis by isolated mononuclear leukocyte was elicited by endotoxin. Before the onset of lipid infusion therapy, plasma-free fatty acid concentrations were greatly increased in **septic** patients, with arachidonic acid by far surpassing eicosapentaenoic acid and docosahexaenoic acid, a feature maintained during conventional lipid infusion. Within 2 days of fish oil infusion, free **n-3 fatty acids** increased, and the **n-3/n-6 ratio** was reversed, with rapid incorporation of **n-3 fatty acids** into mononuclear leukocyte membranes. Generation of proinflammatory cytokines by mononuclear leukocytes was markedly amplified during n-6 and was suppressed during n-3 lipid application. After termination of lipid administration, free **n-3 fatty acid** concentrations and mononuclear leukocyte cytokine synthesis returned to preinfusion values. Use of lipid infusions might allow us to combine intravenous alimentation with differential impact on inflammatory events and immunologic functions in patients with **sepsis**.
TI Parenteral nutrition with fish oil modulates cytokine response in patients with **sepsis**.
AB . . . . Infusion of fish oil-based (n-3) lipids may influence leukocyte function and plasma lipids in critical care patients. Twenty-one patients with **sepsis** requiring parenteral nutrition were randomized to receive an n-3 lipid emulsion rich in eicosapentaenoic acid and docosahexaenoic acid or a conventional (**n-6**) lipid emulsion (index **fatty acid**: arachidonic acid) for 5 days. The impact on plasma-free fatty acids, mononuclear leukocyte cytokine generation, and membrane fatty acid composition. . . leukocyte was elicited by endotoxin. Before the onset of lipid infusion therapy, plasma-free fatty acid concentrations were greatly increased in **septic** patients, with arachidonic acid by far surpassing

eicosapentaenoic acid and docosahexaenoic acid, a feature maintained during conventional lipid infusion. Within 2 days of fish oil infusion, free **n-3 fatty acids** increased, and the **n-3/n-6 ratio** was reversed, with rapid incorporation of **n-3 fatty acids** into mononuclear leukocyte membranes. Generation of proinflammatory cytokines by mononuclear leukocytes was markedly amplified during n-6 and was suppressed during n-3 lipid application. After termination of lipid administration, free **n-3 fatty acid** concentrations and mononuclear leukocyte cytokine synthesis returned to preinfusion values. Use of lipid infusions might allow us to combine intravenous alimentation with differential impact on inflammatory events and immunologic functions in patients with **sepsis**.

CT . . .

dosage

*Fish Oils: AD, administration & dosage
Follow-Up Studies
Leukocytes, Mononuclear: ME, metabolism
*Parenteral Nutrition: MT, methods
Sensitivity and Specificity
Sepsis: DI, diagnosis
***Sepsis: TH, therapy**
Shock, Septic: DI, diagnosis
***Shock, Septic: TH, therapy**
Treatment Outcome

L7 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
AN 2001:208096 CAPLUS
DN 134:236858
TI High lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**
IN Turini, Marco; Roessle, Claudia; Breuille, Denis; Crozier-Willi, Gayle; Finot, Paul-Andre; Richelle, Myriam; Dutot, Guy
PA Societe des Produits Nestle S.A., Switz.
SO PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001019356	A2	20010322	WO 2000-EP8731	20000907
	WO 2001019356	A3	20010517		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1090636	A1	20010411	EP 1999-118173	19990913
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	BR 2000013958	A	20020514	BR 2000-13958	20000907
	EP 1216041	A2	20020626	EP 2000-956522	20000907
	EP 1216041	B1	20040204		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
PRAI	EP 1999-118173	A	19990913		

WO 2000-EP8731 W 20000907

AB A compn. for use as a medicament, functional food, or nutritional product is described which comprises at least one lipid which provides > 35% total energy of the compn. A preferred embodiment comprises an **n-6/n-3 fatty acid** **ratio** of about 2:1 to 7:1. In addn., a method of prepg. the compn., use of the compn. in the manuf. of a medicament or nutritional product, and a method of treatment or prevention of **sepsis** or inflammatory **shock** comprising administering an effective amt. of the compn. are described. An example showing that a high lipid diet (15% and 35% lipids) limits body wt. loss in a rat model of **sepsis** was presented. A high-lipid diet had a beneficial effect for limitation of N loss induced by **sepsis**, suggesting a potential decrease of muscle proteolysis (which is dramatically increased in acute inflammatory conditions). It was particularly effective if the diet has been enriched with lipids before infection.

TI High lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**

AB A compn. for use as a medicament, functional food, or nutritional product is described which comprises at least one lipid which provides > 35% total energy of the compn. A preferred embodiment comprises an **n-6/n-3 fatty acid** **ratio** of about 2:1 to 7:1. In addn., a method of prepg. the compn., use of the compn. in the manuf. of a medicament or nutritional product, and a method of treatment or prevention of **sepsis** or inflammatory **shock** comprising administering an effective amt. of the compn. are described. An example showing that a high lipid diet (15% and 35% lipids) limits body wt. loss in a rat model of **sepsis** was presented. A high-lipid diet had a beneficial effect for limitation of N loss induced by **sepsis**, suggesting a potential decrease of muscle proteolysis (which is dramatically increased in acute inflammatory conditions). It was particularly effective if the diet has been enriched with lipids before infection.

ST lipid omega fatty acid food nutrient; **sepsis** inflammatory **shock** lipid diet

IT Anti-inflammatory agents
Drug delivery systems
Food
Nutrients
Sepsis
(compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Canola oil
Fatty acids, biological studies
Olive oil
Safflower oil
Soybean oil
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Fats and Glyceridic oils, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(fish; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Lipids, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Diet

(high-lipid; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT **Shock** (circulatory collapse)
(inflammatory; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Glycerides, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(medium-chain; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Fats and Glyceridic oils, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(milk; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Fatty acids, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(monounsatd.; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT **Fatty acids**, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyunsatd., **n-3**; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Fatty acids, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyunsatd., omega-6; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Fatty acids, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyunsatd.; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT Fatty acids, biological studies
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(satd.; compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

IT 57-10-3, Hexadecanoic acid, biological studies 57-11-4, Octadecanoic acid, biological studies 60-33-3, Linoleic acid, biological studies 112-80-1, 9-Octadecenoic acid (9Z)-, biological studies 463-40-1, .alpha.-Linolenic acid 506-26-3, .gamma.-Linolenic acid 506-32-1, Arachidonic acid 544-63-8, Tetradecanoic acid, biological studies 6217-54-5, DHA 10417-94-4, Eicosapentaenoic acid 32839-34-2, Docosapentaenoic acid 92661-11-5, Dihomo-.gamma.-linoleinic acid
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compns. of high-lipid diet for prevention or treatment of **sepsis** or inflammatory **shock**)

L7 ANSWER 3 OF 8 MEDLINE on STN
AN 2001608625 MEDLINE
DN 21541830 PubMed ID: 11685569
TI Immunonutrition--supplementary amino acids and fatty acids ameliorate immune deficiency in critically ill patients.
AU Grimm H; Kraus A
CS Department of General and Thoracic Surgery, Justus Liebig University, Rudolf-Buchheim-Strasse 7, 35385 Giessen, Germany..
helmut.grimm@chiru.med.uni-giessen.de

SO LANGENBECKS ARCHIVES OF SURGERY, (2001 Aug) 386 (5) 369-76. Ref: 70
Journal code: 9808285. ISSN: 1435-2443.
CY Germany: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 200112
ED Entered STN: 20011102
Last Updated on STN: 20020123
Entered Medline: 20011205
AB BACKGROUND: Immunonutrition with **omega-3 fatty acids** and the "conditionally essential" amino acids arginine, glutamine, cysteine, and taurine can enhance the immune response in critically ill patients. This is due to the immunomodulating properties of these nutrients. Immunonutrition is especially important when a patient's immune response is compromised, as is the case post-operatively or after trauma. Immune deficiency is severely aggravated in **sepsis** and the systemic inflammatory response syndrome (SIRS). The resulting metabolic stress is characterized by glycolysis, lipolysis, and proteolysis, which may escalate to an hypercatabolic response or "autocannabilism." Catabolic metabolism results in insufficiency of both specific and unspecific immunocompetent cells. CONCLUSIONS: Immunonutrition should be started early in such patients for an optimal beneficial effect, preferably via the enteral route. It should include medium chain and long chain triglycerides, polyunsaturated **omega-3** and **omega-6 fatty acids** (in the **ratio** 1:2), olive oil, and conventional amino acid preparations supplemented with the conditionally essential amino acids arginine, glutamine, cysteine, and taurine.
AB BACKGROUND: Immunonutrition with **omega-3 fatty acids** and the "conditionally essential" amino acids arginine, glutamine, cysteine, and taurine can enhance the immune response in critically ill patients.. . . a patient's immune response is compromised, as is the case post-operatively or after trauma. Immune deficiency is severely aggravated in **sepsis** and the systemic inflammatory response syndrome (SIRS). The resulting metabolic stress is characterized by glycolysis, lipolysis, and proteolysis, which may. . . for an optimal beneficial effect, preferably via the enteral route. It should include medium chain and long chain triglycerides, polyunsaturated **omega-3** and **omega-6 fatty acids** (in the **ratio** 1:2), olive oil, and conventional amino acid preparations supplemented with the conditionally essential amino acids arginine, glutamine, cysteine, and taurine.
CT . . .
TU, therapeutic use
*Amino Acids, Essential: TU, therapeutic use
*Critical Illness
*Dietary Supplements
Endotoxins: BL, blood
Enteral Nutrition: MT, methods
***Fatty Acids, Omega-3: TU, therapeutic use**
*Immunocompromised Host: PH, physiology
*Immunologic Deficiency Syndromes: DH, diet therapy
Immunologic Deficiency Syndromes: ET, etiology
. . .
CN 0 (Adjuvants, Immunologic); 0 (Amino Acids, Essential); 0 (Endotoxins); 0 (**Fatty Acids, Omega-3**); 0 (Lipids); 0 (Proteins)

L7 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:736745 CAPLUS
DN 126:88701
TI The effect of different levels and sources of dietary phosphatidylcholine on the growth, survival, stress resistance, and fatty acid composition of postlarval Penaeus vannamei
AU Coutteau, P.; Camara, M. R.; Sorgeloos, P.
CS Laboratory of Aquaculture and Artemia Reference Center, University of Gent, Rozier 44, B-9000, Ghent, Belg.
SO Aquaculture (1996), 147(3,4), 261-273
CODEN: AQCLAL; ISSN: 0044-8486
PB Elsevier
DT Journal
LA English
AB The effect of dietary purified phosphatidylcholine (PC) was evaluated on growth, survival, resistance to osmotic **shock**, and fatty acid compn. of early postlarval Penaeus vannamei (0.3 mg initial dry wt.) fed semi-purified diets. PC sources used were purified soybean PC (SPC, 95% purity), chicken-egg PC (EPC, 94% purity), and de-oiled soybean lecithin (DSL, 23% PC). The growth response of shrimp fed 1.5% of SPC or 6.5% of DSL was significantly greater than that of shrimp fed a PC-deficient diet, whereas no effect was obsd. either on survival or stress resistance. Further increasing the dietary level of soybean PC from 1.5% to 3.0% resulted in a significant decrease of the shrimp wt. gain. Shrimp receiving 1.5% of PC, provided either as chicken-egg PC, soybean PC, or de-oiled soybean lecithin did not show differences in growth, but had a significantly greater wt. gain than that of shrimp fed 1.5% of de-oiled soybean lecithin, which indicated that the phospholipids in lecithin other than PC cannot compensate for a PC deficiency in the diet. With increasing dietary level of soybean PC, significantly higher levels of 20:1n-9, total **n-6** polyunsatd. **fatty acid** (PUFA), and 20:5n-3 were present in the total lipids of shrimp, whereas the proportionate levels of 18:1n-9 and total monenes significantly decreased. Increasing the level of dietary PC, in particular above 1.5% SPC, resulted in an increase of the **proportion** of **n-3** PUFA and **n-6** PUFA in the tissue, and a reduced **proportion** of satd. and monoenoic fatty acids in the PC of the shrimp. Greater incorporation of **n-3** highly unsatd. **fatty acid** (HUFA) with increasing level of PL in the diet may be explained by an improved utilization efficiency of the Et ester-based source, whereas a better incorporation of 18:2n-6 in total lipids and PC of the shrimp may be due to a better availability of this fatty acid provided in the form of a PL rather than triglyceride-based oil.
RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT
AB The effect of dietary purified phosphatidylcholine (PC) was evaluated on growth, survival, resistance to osmotic **shock**, and fatty acid compn. of early postlarval Penaeus vannamei (0.3 mg initial dry wt.) fed semi-purified diets. PC sources used were purified soybean PC (SPC, 95% purity), chicken-egg PC (EPC, 94% purity), and de-oiled soybean lecithin (DSL, 23% PC). The growth response of shrimp fed 1.5% of SPC or 6.5% of DSL was significantly greater than that of shrimp fed a PC-deficient diet, whereas no effect was obsd. either on survival or stress resistance. Further increasing the dietary level of soybean PC from 1.5% to 3.0% resulted in a significant decrease of the shrimp wt. gain. Shrimp receiving 1.5% of PC, provided either as chicken-egg PC, soybean PC, or de-oiled soybean lecithin did not show differences in growth, but had a significantly greater wt. gain than that of shrimp fed 1.5% of de-oiled soybean lecithin, which indicated that the phospholipids in lecithin other than PC cannot compensate for a PC deficiency in the diet. With increasing dietary level of soybean PC, significantly higher levels of 20:1n-9, total **n-6** polyunsatd. **fatty**

acid (PUFA), and 20:5n-3 were present in the total lipids of shrimp, whereas the proportionate levels of 18:1n-9 and total monenes significantly decreased. Increasing the level of dietary PC, in particular above 1.5% SPC, resulted in an increase of the **proportion** of **n-3** PUFA and **n-6** PUFA in the tissue, and a reduced **proportion** of satd. and monoenoic fatty acids in the PC of the shrimp. Greater incorporation of **n-3** highly unsatd. **fatty acid** (HUFA) with increasing level of PL in the diet may be explained by an improved utilization efficiency of the Et ester-based source, whereas a better incorporation of 18:2n-6 in total lipids and PC of the shrimp may be due to a better availability of this fatty acid provided in the form of a PL rather than triglyceride-based oil.

IT **Fatty acids**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(polyunsatd., **n-3**; different levels and sources of dietary phosphatidylcholine effect on the performance of Penaeus vannamei)

L7 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1994:604060 CAPLUS
DN 121:204060
TI A high .alpha.-linolenate diet suppresses antigen-induced immunoglobulin E response and anaphylactic **shock** in mice
AU Watanabe, Shiro; Sakai, Naomi; Yasui, Yoshihiro; Kimura, Yukiko; Kobayashi, Tetsuyuki; Mizutani, Takaharu; Okuyama, Harumi
CS Fac. Pharmaceutical Sci., Nagoya City Univ., Nagoya, 467, Japan
SO Journal of Nutrition (1994), 124(9), 1566-73
CODEN: JONUAI; ISSN: 0022-3166
DT Journal
LA English
AB Mice were fed for 2 mo diets having **ratios** of .alpha.-linolenate [18:3(**n-3**)] to linoleate [18:2(n-6)] of <0.01, 0.36, 1.0 and 3.9. Proportions of safflower seed oil and perilla seed oil were adjusted to obtain these ratios. The dietary .alpha.-linolenate to linoleate balance was reflected in the **proportion** of (**n-3**) and (**n-6**) highly unsatd. **fatty acids** with 20- and 22-carbon chains in spleen phospholipids, but the ratio did not affect the proportion of T lymphocyte subsets expressing CD4 and CD8 antigens in splenic leukocytes. The Ig (Ig) G and IgM responses against sheep red blood cells when estd. as plaque-forming cells present in spleen, were not affected significantly by the diets. However, the serum hemagglutinin titer was slightly but significantly higher in the high .alpha.-linolenate diet group [18:3(n-3)/18:2(n-6) = 3.9] than in the dietary groups with 18:3(**n-3**) to 18:2(**n-6**) **ratios** of 0.36 and <0.01. In contrast, the IgE antibody response against egg albumin, as well as the mortality from anaphylactic **shock** induced by a second challenge with antigen, was significantly lower in the high .alpha.-linolenate diet group [18:3(n-3)/18:2(n-6) = 3.9] than in the high linoleate diet [18:3(n-3)/18:2(n-6) < 0.01] group. These results, together with the reported suppressive effects of a high .alpha.-linolenate diet on the formation of lipid-derived allergic mediators, support the hypothesis that raising the (**n-3**) to (**n-6**) **ratios** of diets would be effective in reducing the severity of immediate-type allergic hypersensitivity.

TI A high .alpha.-linolenate diet suppresses antigen-induced immunoglobulin E response and anaphylactic **shock** in mice
AB Mice were fed for 2 mo diets having **ratios** of .alpha.-linolenate [18:3(**n-3**)] to linoleate [18:2(n-6)] of <0.01, 0.36, 1.0 and 3.9. Proportions of safflower seed oil and perilla seed oil were

adjusted to obtain these ratios. The dietary .alpha.-linolenate to linoleate balance was reflected in the **proportion** of (**n-3**) and (**n-6**) highly unsatd. **fatty acids** with 20- and 22-carbon chains in spleen phospholipids, but the ratio did not affect the proportion of T lymphocyte subsets expressing CD4 and CD8 antigens in splenic leukocytes. The Ig (Ig) G and IgM responses against sheep red blood cells when estd. as plaque-forming cells present in spleen, were not affected significantly by the diets. However, the serum hemagglutinin titer was slightly but significantly higher in the high .alpha.-linolenate diet group [18:3(n-3)/18:2(n-6) = 3.9] than in the dietary groups with 18:3(**n-3**) to 18:2(**n-6**) **ratios** of 0.36 and <0.01. In contrast, the IgE antibody response against egg albumin, as well as the mortality from anaphylactic **shock** induced by a second challenge with antigen, was significantly lower in the high .alpha.-linolenate diet group [18:3(n-3)/18:2(n-6) = 3.9] than in the high linoleate diet [18:3(n-3)/18:2(n-6) < 0.01] group. These results, together with the reported suppressive effects of a high .alpha.-linolenate diet on the formation of lipid-derived allergic mediators, support the hypothesis that raising the (**n-3**) to (**n-6**) **ratios** of diets would be effective in reducing the severity of immediate-type allergic hypersensitivity.

ST linolenate diet IgE anaphylactic **shock** allergy

IT Anaphylaxis
(a high .alpha.-linolenate diet suppresses antigen-induced IgE response and anaphylactic **shock**)

IT Safflower oil
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(a high .alpha.-linolenate diet suppresses antigen-induced IgE response and anaphylactic **shock**)

IT Immunoglobulins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(E, a high .alpha.-linolenate diet suppresses antigen-induced IgE response and anaphylactic **shock**)

IT Agglutinins and Lectins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(hemagglutinins, a high .alpha.-linolenate diet suppresses antigen-induced IgE response and anaphylactic **shock**)

IT Allergy
(hypersensitivity, a high .alpha.-linolenate diet suppresses antigen-induced IgE response and anaphylactic **shock**)

IT Fats and Glyceridic oils
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(perilla, a high .alpha.-linolenate diet suppresses antigen-induced IgE response and anaphylactic **shock**)

IT **Fatty acids**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(polyunsatd., **n-3**, a high .alpha.-linolenate diet suppresses antigen-induced IgE response and anaphylactic **shock**)

IT **Fatty acids**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(polyunsatd., **n-6**, a high .alpha.-linolenate diet suppresses antigen-induced IgE response and anaphylactic **shock**

)

IT 60-33-3, Linoleic acid, biological studies 463-40-1, .alpha.-Linolenic acid
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(a high .alpha.-linolenate diet suppresses antigen-induced IgE response and anaphylactic **shock**)

L7 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1994:481750 CAPLUS
DN 121:81750
TI Effects of dietary fat compositions on alimentary anaphylaxis and formaldehyde sensitization in guinea pigs
AU Malikova, N. A.; Pestova, M. I.; Krzhechkovskaya, V. V.; Gmoshinsky, I. V.; Mazo, V. K.
CS Inst. Pitan., Moscow, Russia
SO Voprosy Pitaniya (1993), (5), 50-3
CODEN: VPITAR; ISSN: 0042-8833
DT Journal
LA Russian
AB Adult guinea pigs were fed for 10-11 days with synthetic diets, fat constituting 11% of total dietary energy. Dietary fat was composed of coconut, corn, dairy and soybean oils mixts. with the **ratio** of polyunsatd. fatty acids (PUFA) .**omega**.-**6** to PUFA .**omega**.-**3** equal to 24.2 (K1) or 5.53 (K2). The animals were sensitized orally by pasteurized cow milk (PCM) or epicutaneously by formaldehyde (F) during feeding of these diets. The degree of the sensitization was assessed in the reaction of active anaphylactic **shock** (AAS) in PCM-sensitized animals and in the reaction of leukocytes specific lysis (LSL) in F-sensitized guinea pigs. In the latter pigs the concn. of serum antibodies (Ab) against dietary soya protein was measured by ELISA. Animals fed by K1 and K2 were also tested for histamine mean LD resistance. The lowest lethality in AAS, no. of convulsions, of pos. LSL cases and Ab level were found in animals fed by K1 compared to both K2 and to animals fed by common animal chow. Resistance to histamine was similar in K1 and K2 groups, but was significantly higher compared to the control (chow) group. In convulsion, the changes in PUFA .**omega**.-**6**/PUFA .**omega**.-**3** **ratio** have marked effects on different indexes of allergic sensitivity.
AB Adult guinea pigs were fed for 10-11 days with synthetic diets, fat constituting 11% of total dietary energy. Dietary fat was composed of coconut, corn, dairy and soybean oils mixts. with the **ratio** of polyunsatd. fatty acids (PUFA) .**omega**.-**6** to PUFA .**omega**.-**3** equal to 24.2 (K1) or 5.53 (K2). The animals were sensitized orally by pasteurized cow milk (PCM) or epicutaneously by formaldehyde (F) during feeding of these diets. The degree of the sensitization was assessed in the reaction of active anaphylactic **shock** (AAS) in PCM-sensitized animals and in the reaction of leukocytes specific lysis (LSL) in F-sensitized guinea pigs. In the latter pigs the concn. of serum antibodies (Ab) against dietary soya protein was measured by ELISA. Animals fed by K1 and K2 were also tested for histamine mean LD resistance. The lowest lethality in AAS, no. of convulsions, of pos. LSL cases and Ab level were found in animals fed by K1 compared to both K2 and to animals fed by common animal chow. Resistance to histamine was similar in K1 and K2 groups, but was significantly higher compared to the control (chow) group. In convulsion, the changes in PUFA .**omega**.-**6**/PUFA .**omega**.-**3** **ratio** have marked effects on different indexes of allergic sensitivity.
IT **Fatty acids**, biological studies

RL: BIOL (Biological study)
(polyunsatd., **n-3**, alimentary anaphylaxis and formaldehyde sensitization in relation to level of dietary)

IT **Fatty acids**, biological studies
RL: BIOL (Biological study)
(polyunsatd., **n-6**, alimentary anaphylaxis and formaldehyde sensitization in relation to level of dietary)

L7 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
AN 1991:606821 CAPLUS
DN 115:206821
TI Long-term feeding with structured lipid composed of medium-chain and **n-3 fatty acids** ameliorates endotoxic **shock** in guinea pigs
AU Teo, Tiew C.; Selleck, Kelley M.; Wan, Jennifer M. F.; Pomposelli, James J.; Babayan, Vigen K.; Blackburn, George L.; Bistrian, Bruce R.
CS Dep. Surg., Aberdeen R. Infirm., Aberdeen, UK
SO Metabolism, Clinical and Experimental (1991), 40(11), 1152-9
CODEN: METAAJ; ISSN: 0026-0495
DT Journal
LA English
AB The metabolic and physiol. responses to 7-h endotoxin infusion (5.0 mg/kg h) were evaluated in guinea pigs following 6 wk of dietary enrichment with diets contg. either chem. structured lipid (SL) composed of medium-chain triglycerides (MCT) and long-chain triglycerides (LCT) in the form of **n-3** polyunsatd. **fatty acids** (PUFAs), or safflower oil (SO), which is high in **n-6** **fatty acids**. Plasma phospholipid fatty acid profiles, arterial blood pH, Pco2, Po2, HCO2, lactate, blood pressure, oxygen consumption, and energy expenditure were examd. Plasma phospholipid fatty acids profiles reflected dietary intake with SL-fed animals demonstrating a significantly higher **n-3** to **n-6** **fatty acid ratio** compared with SO-fed animals, SL-fed animals responded to endotoxemia with a mild metabolic acidosis with respiratory compensation, which was assocd. with moderate lactatemia (3 mmol/L). SO-fed animals developed a severe metabolic acidosis with acidemia and respiratory compensation, which was assocd. with hyperlactatemia (8 mmol/L). No differences were obsd. in blood pressure, oxygen consumption, energy expenditure, or RQ during endotoxemia between dietary groups compared with controls. Diets enriched with structured lipid composed of medium-chain and **n-3 fatty acids** can thus attenuate the sequelae of endotoxemia.
TI Long-term feeding with structured lipid composed of medium-chain and **n-3 fatty acids** ameliorates endotoxic **shock** in guinea pigs
AB The metabolic and physiol. responses to 7-h endotoxin infusion (5.0 mg/kg h) were evaluated in guinea pigs following 6 wk of dietary enrichment with diets contg. either chem. structured lipid (SL) composed of medium-chain triglycerides (MCT) and long-chain triglycerides (LCT) in the form of **n-3** polyunsatd. **fatty acids** (PUFAs), or safflower oil (SO), which is high in **n-6** **fatty acids**. Plasma phospholipid fatty acid profiles, arterial blood pH, Pco2, Po2, HCO2, lactate, blood pressure, oxygen consumption, and energy expenditure were examd. Plasma phospholipid fatty acids profiles reflected dietary intake with SL-fed animals demonstrating a significantly higher **n-3** to **n-6** **fatty acid ratio** compared with SO-fed animals, SL-fed animals responded to endotoxemia with a mild metabolic acidosis with respiratory compensation, which was assocd. with moderate lactatemia (3 mmol/L). SO-fed animals developed a severe metabolic acidosis with acidemia and respiratory compensation, which was assocd. with hyperlactatemia (8 mmol/L). No differences were obsd. in blood pressure,

oxygen consumption, energy expenditure, or RQ during endotoxemia between dietary groups compared with controls. Diets enriched with structured lipid composed of medium-chain and **n-3 fatty acids** can thus attenuate the sequelae of endotoxemia.

ST fatty acid diet endotoxin **shock**

IT Phospholipids, biological studies
RL: BIOL (Biological study)
(fatty acids of, of blood plasma in endotoxic **shock**, dietary medium-chain and **n-3 fatty acids** effect on)

IT Blood
(indexes of, in endotoxic **shock**, dietary medium-chain and **n-3 fatty acids** effect on)

IT **Shock**
(endotoxin, dietary medium-chain and **n-3 fatty acids** amelioration of)

IT Fatty acids, biological studies
RL: BIOL (Biological study)
(medium-chain, endotoxic **shock** amelioration with dietary **n-3 fatty acids** and)

IT **Fatty acids**, biological studies
RL: BIOL (Biological study)
(polyunsatd., **n-3**, endotoxic **shock** amelioration with dietary medium-chain fatty acids and)

L7 ANSWER 8 OF 8 MEDLINE on STN

AN 88057550 MEDLINE

DN 88057550 PubMed ID: 3119485

TI [Essential fatty acids in parenteral nutrition].
Essentielle Fettsauren in der parenteralen Ernahrung.

AU Wolfram G

CS Institut fur Ernahrungswissenschaft der TU Munchen, Weihenstephan.

SO INFUSIONSTHERAPIE UND KLINISCHE ERNAHRUNG, (1987 Sep) 14 Suppl 3 20-8.
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General Review; (REVIEW)
(REVIEW, TUTORIAL)

LA German

FS Priority Journals

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AB Fat is a very important nutrient in that it supplies energy, essential fatty acids and fat soluble vitamins. The importance of **n-6** essential **fatty acids**, i.e., linoleic and arachidonic acid, in total parenteral nutrition was demonstrated in the last 15 years by several cases of essential fatty acid deficiency. In addition, **n-3 fatty acids**, i.e., alpha-linolenic acid, eicosapentaenoic acid and docosahexaenoic acid, are essential nutrients in forming an independent family of eicosanoids with biological effects different from those of the **n-6 fatty acids**. The requirement of different essential fatty acids in patients with total parenteral nutrition after heavy injury is of special interest with respect to the development and prognosis of **shock, sepsis** or adult respiratory distress syndrome. The available soy oil based fat emulsions contain **n-6** and **n-3 fatty acids** in a suitable **proportion** of 7:1, but further information on essential fatty acid requirement in different diseases is necessary.

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